

RZ5xx

SERIES

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RISO INTERNATIONAL GROUP

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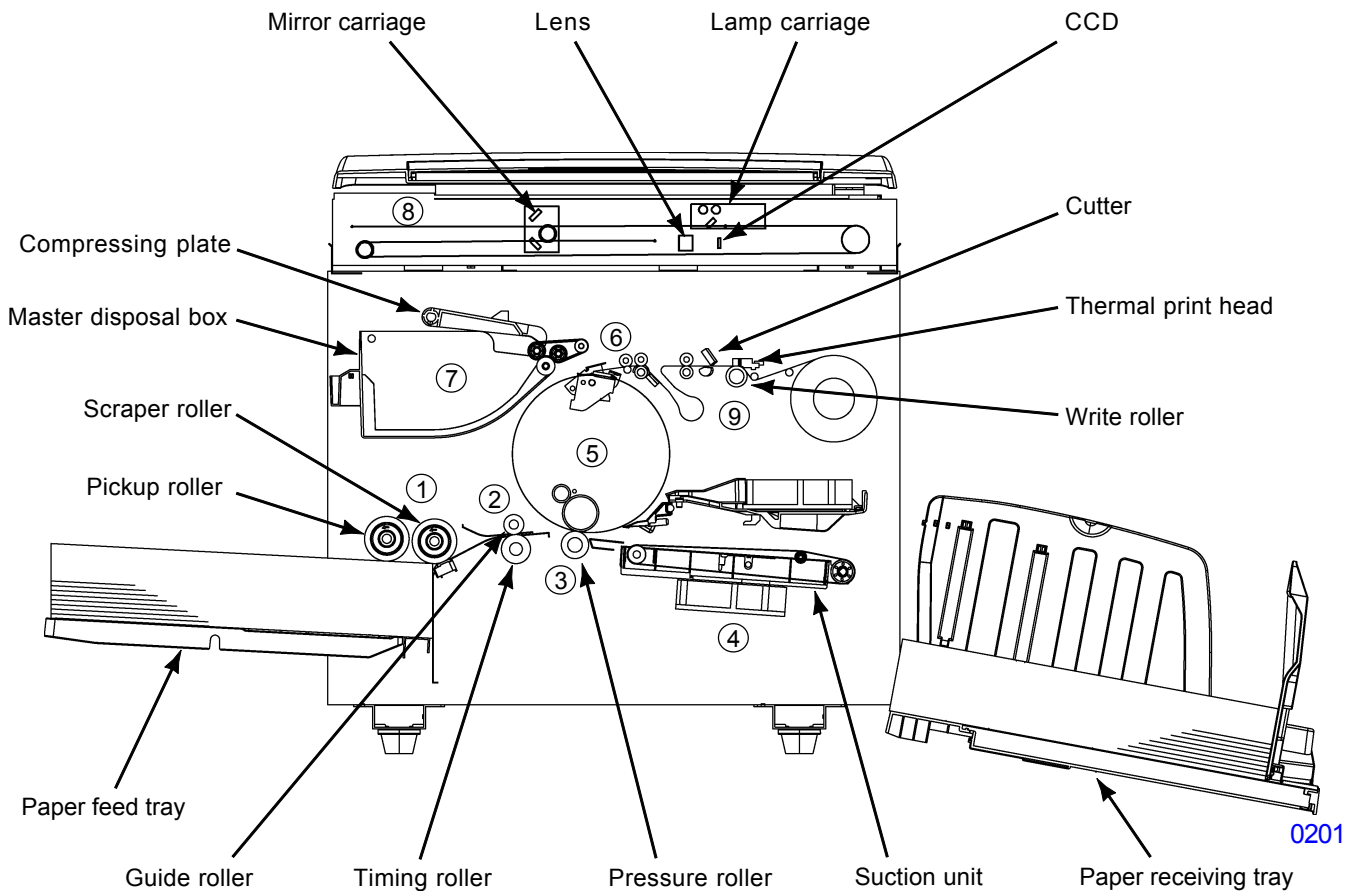
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CHAPTER 2: MACHINE SUMMARY

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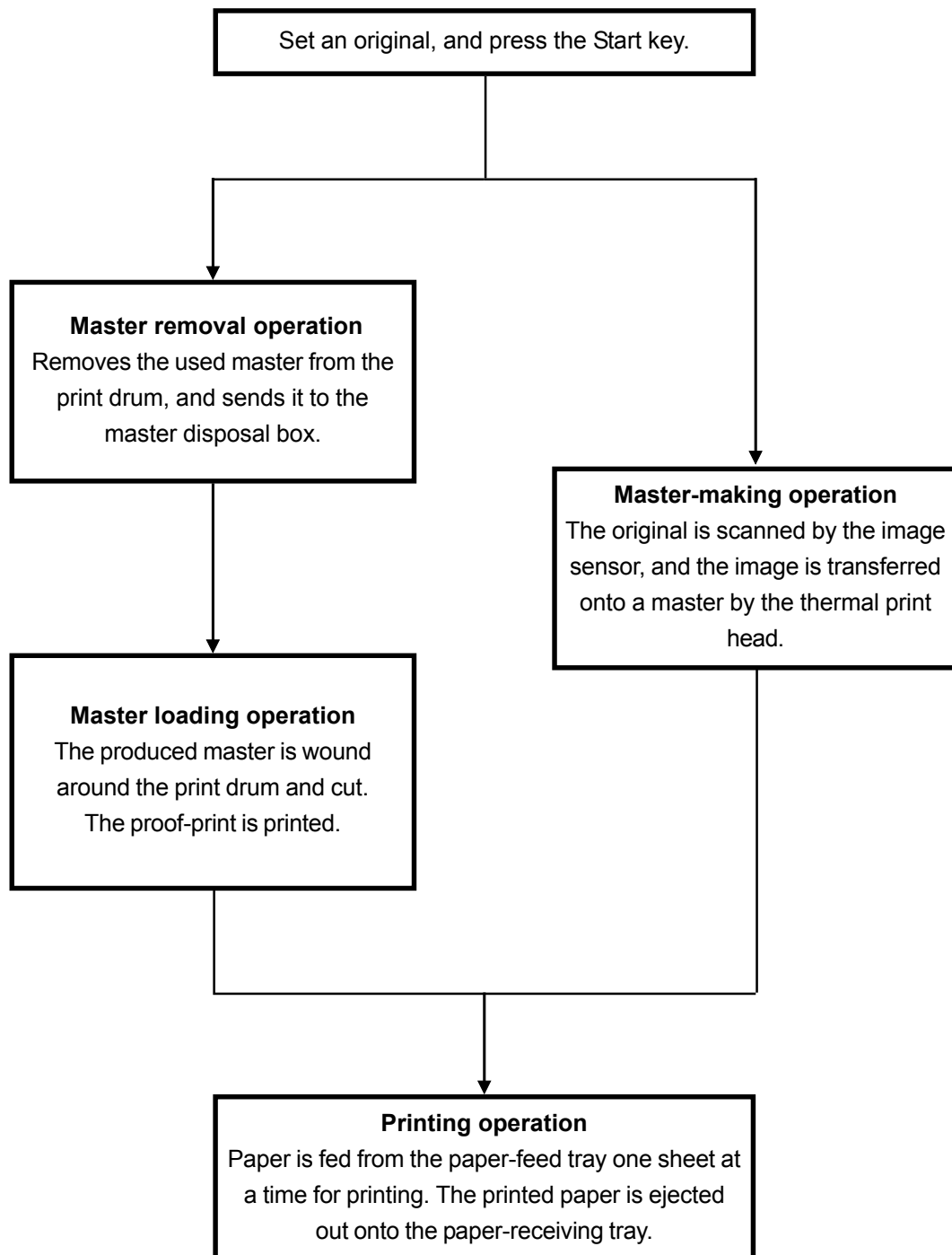
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1. Cross-Sectional Diagram



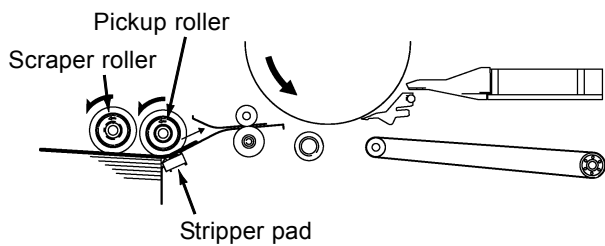
- ① First paper-feed area : Sends paper from the paper-feed tray one sheet at a time.
- ② Second paper-feed area : Stops the paper sent from the first paper-feed stage, and accurately feeds it to the print drum and pressure section.
- ③ Printing section : The pressure roller presses the paper firmly against the print drum for printing and feeding.
- ④ Paper-ejection section : Removes the printed paper from the print drum using the separator, and sends it to the paper-receiving tray.
- ⑤ Print cylinder (drum) : Supplies ink from the ink cartridge to the surface of the print drum for printing.
- ⑥ Clamp unit : Clamps the leading edge of a master.
- ⑦ Master-removal section : Peels the master from the print drum after use, and discharges it into the master disposal box.
- ⑧ Flatbed section : The lamp carriage and mirror carriage move, and the CCD unit scans the original on the scanner table.
- ⑨ Master-making section : Transports and creates a master using the thermal print head, then sends the produced master to the print drum, and cuts the master material.

2. Operation Outline

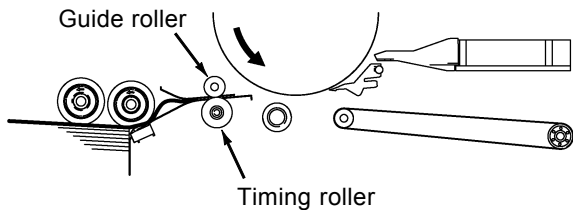


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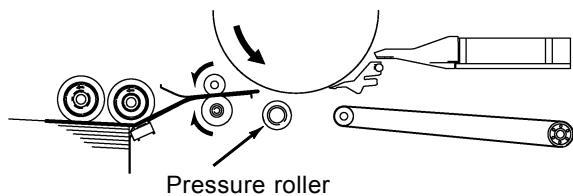
3. Outline of Paper-feeding, Printing, and Paper-ejection Operations



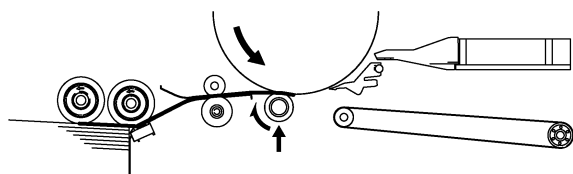
- (1) When the print drum rotates, the scraper roller and pickup roller also turn to feed paper. The stripper pad allows only one sheet to pass through to the second paper-feed area.



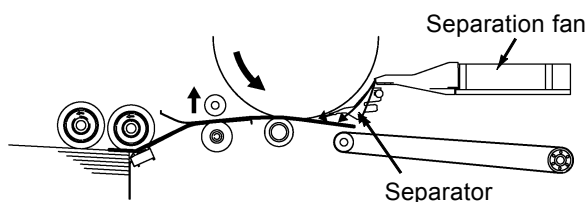
- (2) The paper sent from the first paper-feed area contacts the timing roller and guide roller, and stops temporarily. This causes slight buckling of the paper.



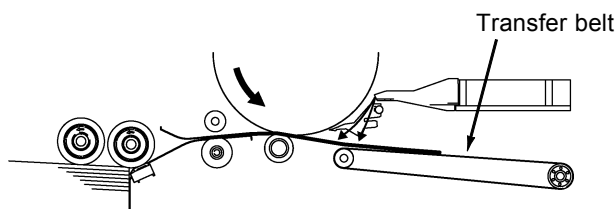
- (3) The timing roller and guide roller start rotating, feeding paper to the pressure section. (This operation is referred to as the "second paper-feed". To prevent tension from being placed on the end of the paper, the scraper roller and pickup roller are free to spin.)



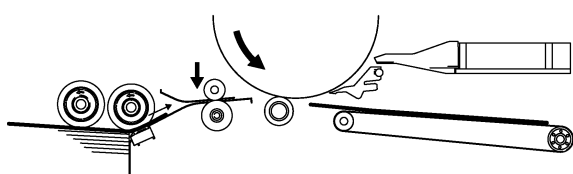
- (4) When the paper is fed further in from the second paper-feed area, the pressure roller rises to clamp the paper between the drum and pressure roller to start the printing operation.



- (5) The printed paper is removed from the print drum by the separator and separation fan. When the pressure roller rises, the guide roller also moves up to prevent tension from being placed on the trailing end of the paper.



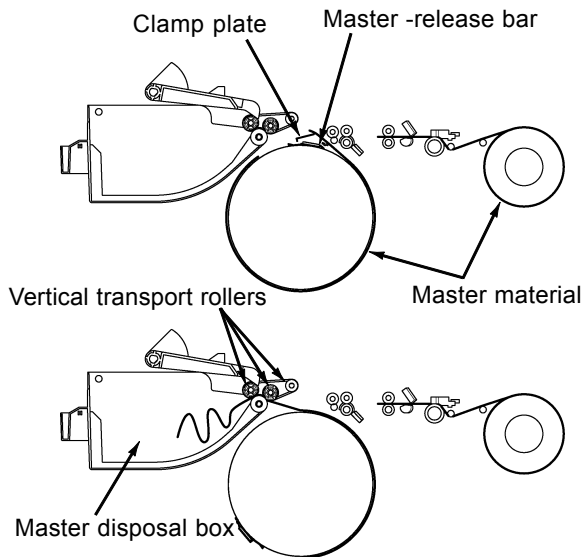
- (6) Then, the suction fan sucks in the air to keep the paper firmly on the transfer belts while the paper is carried to the paper-receiving tray.



- (7) The next sheet of paper is sent to the first paper-feed area, and the guide roller lowers.

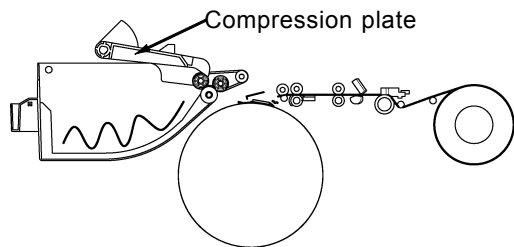
0202

4. Outline of Master-removal, Master-making, and Master-loading Operations

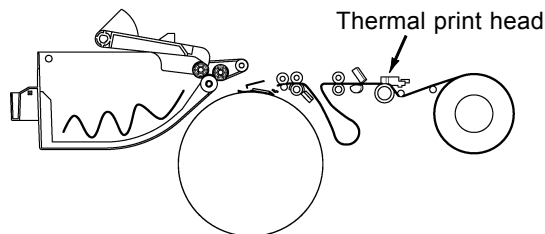


Master-removal operation

- (1) The clamp plate holding the leading edge of the master opens, and the master-release bar rises to lift the master out from under the clamp plate
- (2) The vertical transport rollers and print drum rotate, thereby separating the master from the print drum and sending it to the master disposal box.

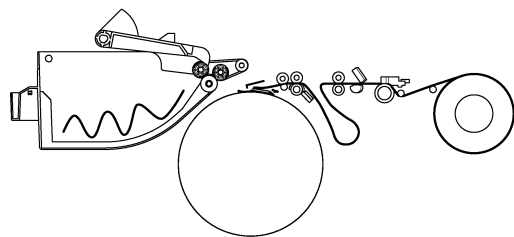


- (3) The motion of the compression plate starts, pressing the master into the master disposal box.



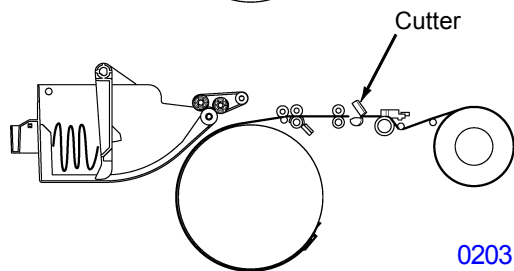
Master-making operation

- (1) The image sensor scans the original, and the thermal print head transfers the image onto a master.



Master-loading operation

- (1) The leading edge of the master is sent to a the clamp plate on the print drum, and the leading edge is clamped.



- (2) The print drum rotates to wind the master around it.
- (3) The cutter cuts the master.

0203

5. Optional Accessories (Excludes China Market Models)

Optional Accessories

A variety of optional accessories are available to enhance the capabilities of the machine. For details about the optional accessories, see your dealer (or authorized service representative).

◆ Auto Document Feeder

Feed up to 50 sheets of originals automatically.

◆ Color Cylinder (Drum)

Simply change the Cylinder (Drum) to print in multiple colors. (Case included)

◆ Letter (A4) Cylinder (Drum) W (RZ590/RZ570 only)

A special cylinder (drum) for Letter or A4 size landscape paper. (Case included)

◆ Key Card Counter

With a single button press, shows the numbers of printed copies and consumed masters within a given period of time. This can help you manage costs.

◆ Job Separator

With the Programed Printing function, allows the machine to print and sort into groups separated by tape.

◆ Stand

◆ RISO PRINTER Network Interface Card RISORINC-NET

Use to directly connect the machine to the network.

This comes with the RISO-MONITOR software that allows you to check the status of the machine from computers.

◆ Special Paper Feed Kit

This unit allows you to feed thicker paper such as cards and envelopes

◆ Ink/Master Holder

A rack kit for storing supply such as ink and masters.

6. Machine Specification (Excludes China Market Models)

Specifications

RISO RZ590 UI

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (22 lb (10 kg) or less), sheet
Original Size (max./min.)	When using the Stage Glass : 11 ⁵ / ₁₆ " × 3 ⁹ / ₁₆ " (50 mm × 90 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm) When using the ADF unit (option) : 3 ⁹ / ₁₆ " × 5 ¹ / ₂ " (90 mm × 140 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm)
Original Paper Weight	When using the Stage Glass : 22 lb (10 kg) or less When using the ADF unit (option) : 15-lb bond (50 g/m ²) - 28-lb bond (110 g/m ²)
Print Paper Size (max./min.)	3 ¹⁵ / ₁₆ " × 5 ¹³ / ₁₆ " (100 mm × 148 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm)
Paper Supply Capacity	1000 sheets (17-lb bond (64 g/m ²))
Print Paper Weight	13-lb bond (46 g/m ²) - 110-lb index (210 g/m ²)
Image Processing mode	Line, Photo, Duo, Pencil
Resolution	D600dpi
Master-making Time	Approx. 16 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	11 ⁷ / ₁₆ " × 16 ³ / ₄ " (291 mm × 425 mm)
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 200%, 154%, 129%, 121% Standard reproduction ratio (reduction) : 78%, 65%, 61%, 50% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±1 ⁹ / ₃₂ " (±15 mm) Horizontal : ± ³ / ₈ " (±10 mm)
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 215 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-V, Job Separator, Key Card Counter, Color Cylinder (Drum), Network Interface Card RISORINC-NET, Special Paper Feed Kit, Stand, Letter Cylinder (Drum) W
Power Source	RZ590UI : 120 V AC, 60 Hz <3.1 A>
Dimensions	When in use : 54 ⁵ / ₁₆ "(W) × 25 ³ / ₈ "(D) × 26"(H) (1380 mm(W) × 645 mm(D) × 660 mm(H)) When in storage : 30 ¹ / ₂ "(W) × 25 ³ / ₈ "(D) × 26"(H) (775 mm(W) × 645 mm(D) × 660 mm(H))
Weight	Approx. 227 lb (103 kg)

Note:

- Please note that due to improvements and changes to the machine, some images and explanations in this manual may not correspond to your machine.
- The specifications are subject to change without prior notice.

RISO RZ570 EP

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg or less), sheet
Original Size (max./min.)	When using the Platen Glass : 50mm × 90mm - 297mm × 432mm When using the ADF unit (option) : 90mm × 140mm - 297mm × 432mm
Original Paper Weight	When using the Platen Glass : 10 kg or less When using the ADF unit (option) : 50g/m ² - 110g/m ²
Print Paper Size (max./min.)	100mm × 148mm - 297mm × 432mm
Paper Supply Capacity	1000 sheets (64 g/m ²)
Print Paper Weight	46g/m ² - 210g/m ²
Image Processing mode	Line, Photo, Duo, Pencil
Resolution	D600dpi
Master-making Time	Approx. 16 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	291mm × 413mm
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 163%, 141%, 122%, 116% Standard reproduction ratio (reduction) : 87%, 82%, 71%, 61% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15mm Horizontal : ±10mm
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 220 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-V, Job Separator, Key Card Counter, Colour Drum, Network Interface Card RISORINC-NET, Special Paper Feed Kit, Stand, A4 Drum W
Power Source	RZ570EP : 220V-240V AC, 50/60Hz <1.6A>
Dimensions	When in use : 1380mm(W) × 645mm(D) × 660mm(H) When in storage : 775mm(W) × 645mm(D) × 660mm(H)
Weight	Approx. 103 kg

Note:

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RISO RZ570 AW, AN

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (22 lb (10 kg) or less), sheet
Original Size (max./min.)	When using the Stage Glass : 11 ⁵ / ₁₆ " × 3 ⁹ / ₁₆ " (50 mm × 90 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm) When using the ADF unit (option) : 3 ⁹ / ₁₆ " × 5 ¹ / ₂ " (90 mm × 140 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm)
Original Paper Weight	When using the Stage Glass : 22 lb (10 kg) or less When using the ADF unit (option) : 15-lb bond (50 g/m ²) - 28-lb bond (110 g/m ²)
Print Paper Size (max./min.)	3 ¹⁵ / ₁₆ " × 5 ¹³ / ₁₆ " (100 mm × 148 mm) - 11 ¹¹ / ₁₆ " × 17" (297 mm × 432 mm)
Paper Supply Capacity	1000 sheets (17-lb bond (64 g/m ²))
Print Paper Weight	13-lb bond (46g/m ²) - 110-lb index (210g/m ²)
Image Processing mode	Line, Photo, Duo, Pencil
Resolution	D600dpi
Master-making Time	Approx. 16 seconds (for A4/landscape/100% reproduction ratio)
Printing Area (max.)	11 ⁷ / ₁₆ " × 16 ¹ / ₄ " (291 mm × 413 mm)
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 163%, 141%, 122%, 116% Standard reproduction ratio (reduction) : 87%, 82%, 71%, 61% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±1 ⁹ / ₃₂ " (±15 mm) Horizontal : ± ³ / ₈ " (±10 mm)
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 220 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-V, Job Separator, Key Card Counter, Color Cylinder (Drum), Network Interface Card RISORINC-NET, Special Paper Feed Kit, Stand, A4 Cylinder (Drum) W
Power Source	RZ570AW : 220V-240V AC, 50/60Hz <1.6A> RZ570AN : 110 V AC, 60 Hz <3.1 A>
Dimensions	When in use : 54 ⁵ / ₁₆ "(W) × 25 ³ / ₈ "(D) × 26"(H) (1380 mm(W) × 645 mm(D) × 660 mm(H)) When in storage : 30 ¹ / ₂ "(W) × 25 ³ / ₈ "(D) × 26"(H) (775 mm(W) × 645 mm(D) × 660 mm(H))
Weight	Approx. 227 lb (103 kg)

Note:

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RISO RZ510 UI

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (22 lb (10 kg) or less), sheet
Original Size (max./min.)	When using the Stage Glass : $11\frac{5}{16}" \times 3\frac{9}{16}"$ (50 mm $\times$ 90 mm) - $11\frac{11}{16}" \times 17"$ (297 mm $\times$ 432 mm) When using the ADF unit (option) : $3\frac{9}{16}" \times 5\frac{1}{2}"$ (90 mm $\times$ 140 mm) - $11\frac{11}{16}" \times 17"$ (297 mm $\times$ 432 mm)
Original Paper Weight	When using the Stage Glass : 22 lb (10 kg) or less When using the ADF unit (option) : 15-lb bond (50 g/m ²) - 28-lb bond (110 g/m ²)
Print Paper Size (max./min.)	$3\frac{15}{16}" \times 5\frac{13}{16}"$ (100 mm $\times$ 148 mm) - $11\frac{11}{16}" \times 17"$ (297 mm $\times$ 432 mm)
Paper Supply Capacity	1000 sheets (17-lb bond (64 g/m ²))
Print Paper Weight	13-lb bond (46 g/m ²) - 110-lb index (210 g/m ²)
Image Processing mode	Line, Photo, Duo, Pencil
Resolution	D600dpi
Master-making Time	Approx. 22 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	$8\frac{1}{4}" \times 11\frac{7}{16}"$ (210 mm $\times$ 290 mm)
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 200%, 154%, 129%, 121% Standard reproduction ratio (reduction) : 78%, 65%, 61%, 50% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : $\pm 1\frac{9}{32}"$ (± 15 mm) Horizontal : $\pm \frac{3}{8}"$ (± 10 mm)
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 295 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-V, Job Separator, Key Card Counter, Color Cylinder (Drum), Network Interface Card RISORINC-NET, Special Paper Feed Kit, Stand
Power Source	RZ510UI : 120 V AC, 60 Hz <3.1 A>
Dimensions	When in use : $54\frac{5}{16}"(W) \times 25\frac{3}{8}"(D) \times 26"(H)$ (1380 mm(W) $\times$ 645 mm(D) $\times$ 660 mm(H)) When in storage : $30\frac{1}{2}"(W) \times 25\frac{3}{8}"(D) \times 26"(H)$ (775 mm(W) $\times$ 645 mm(D) $\times$ 660 mm(H))
Weight	Approx. 227 lb (103 kg)

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RISO RZ500 EP

Master-making/printing methods	High-speed digital master-making/full automatic stencil printing
Original Type	Book (10 kg or less), sheet
Original Size (max./min.)	When using the Platen Glass : 50mm × 90mm - 297mm × 432mm When using the ADF unit (option) : 90mm × 140mm - 297mm × 432mm
Original Paper Weight	When using the Platen Glass : 10 kg or less When using the ADF unit (option) : 50g/m ² - 110g/m ²
Print Paper Size (max./min.)	100mm × 148mm - 297mm × 432mm
Paper Supply Capacity	1000 sheets (64g/m ²)
Print Paper Weight	46g/m ² - 210g/m ²
Image Processing mode	Line, Photo, Duo, Pencil
Resolution	D600dpi
Master-making Time	Approx. 22 seconds (for A4/portrait/100% reproduction ratio)
Printing Area (max.)	210mm × 290mm
Print Reproduction Ratio	Zoom : 50 - 200% Standard reproduction ratio (enlargement) : 163%, 141%, 122%, 116% Standard reproduction ratio (reduction) : 87%, 82%, 71%, 61% Margin+ : 90 - 99 %
Print Speed	Approx. 60 - 130 sheets per minute (five steps variable)
Print Position Adjustment	Vertical : ±15mm Horizontal : ±10mm
Ink Supply	Full automatic (1000 ml per cartridge)
Master Supply/Disposal	Full automatic (approx. 295 sheets per roll)
Master Disposal Capacity	100 sheets
User Interface	LCD Touch Panel with Progress Arrow indicators, front-side operation
Optional Accessories	Auto Document Feeder AF-V, Job Separator, Key Card Counter, Colour Drum, Network Interface Card RISORINC-NET, Special Paper Feed Kit, Stand
Power Source	RZ500EP : 220V-240V AC, 50/60Hz <1.6A>
Dimensions	When in use : 1380mm(W) × 645mm(D) × 660mm(H) When in storage : 775mm(W) × 645mm(D) × 660mm(H)
Weight	Approx. 103 kg

Note:

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7. Optional Accessories (China Market Models only)

选购附件

有各种各样的选购附件可用于增强本机功能。
如需了解有关选购附件的详情，请联系您的经销商（或授权维修中心）。

◆ 自动进稿机

可自动供给多达 50 张原稿。

◆ 彩色滚筒

只需更换滚筒便可用多种颜色印刷。（包含外壳）

◆ A4 滚筒 W

用于 A4 尺寸横向纸张的特殊滚筒。（包含外壳）

◆ 磁卡计数器

只要按一个键，即可显示指定时间段内的印刷量与版纸消耗量。这有助于成本管理。

◆ 分页机

使用编程印刷功能，可供本机进行印刷并以胶带分页成组。

◆ 撑脚

◆ 理想速印机网络接口卡 RISORINC-NET

用于直接将本机接入网络。

此附件附带 RISO-MONITOR 软件，可用于从计算机检查本机状态。

◆ 特殊纸张进纸组件

通过本机组可以送入较厚的纸张，如卡片与信封。

◆ 油墨 / 版纸支架

用于储存备件（如油墨与版纸）的支架组件。

8. Machine Specification (China Market Model only)

技术规格

RISO RV5690

制版 / 印刷方法	高速数字制版 / 全自动模版印刷
原稿类型	书本 (10 kg 或以下)、稿纸
原稿尺寸 (最大 / 最小)	使用扫描台玻璃时: 50 mm × 90 mm - 297 mm × 432 mm 使用自动进稿机组 (选购件) 时: 90 mm × 140 mm - 297 mm × 432 mm
原稿纸张重量	使用扫描台玻璃时: 10 kg 或以下 使用自动进稿机组 (选购件) 时: 50 g/m ² - 110 g/m ²
印刷纸张尺寸 (最大 / 最小)	100 mm × 148 mm - 297 mm × 432 mm
进纸容量	1000 张 (64 g/m ²)
印刷纸张重量	46 g/m ² - 210 g/m ²
图像处理模式	文字、照片、图文、铅笔
分辨率	D600dpi
制版时间	约 16 秒 (对于 A4/ 横向 /100% 缩放比率)
印刷区域 (最大)	291 mm × 413 mm
印刷缩放比率	任意指定: 50 - 200% 标准缩放比率 (放大): 163%, 141%, 122%, 116% 标准缩放比率 (缩小): 87%, 82%, 71%, 61% 页边放大: 90 - 99 %
印刷速度	约每分钟 60 - 130 张 (5 级速度调节)
印刷位置调整	垂直: ±15 mm, 水平: ±10 mm
油墨供给	全自动 (每筒 1000 毫升)
版纸供给 / 回收	全自动 (约每卷 220 张)
废版盒容量	100 张
用户界面	带进度箭头指示灯的 LCD 触摸面板, 正面操作
选购附件	自动进稿机 AF-V、分页机、磁卡计数器、彩色滚筒、网卡 RISORINC-NET、特殊进纸套件、撑脚、A4 滚筒 W
电源	RV5690C: 220V AC, 50Hz <1.6A>
尺寸	使用时: 1380 mm (W) × 645 mm (D) × 660 mm (H) 存储时: 775 mm (W) × 645 mm (D) × 660 mm (H)
重量	约 103 kg

注:

- 请注意, 由于本机的改进与修改, 本手册中的某些图像与说明可能与您的速印机不同。
- 以上规格如果变更恕不另行通知。

MEMO

CHAPTER 3: MAIN DRIVE

Contents

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3. Removing the Main Motor Pulley Assembly	3-10
4. Removing the Main Shaft Assembly	3-11
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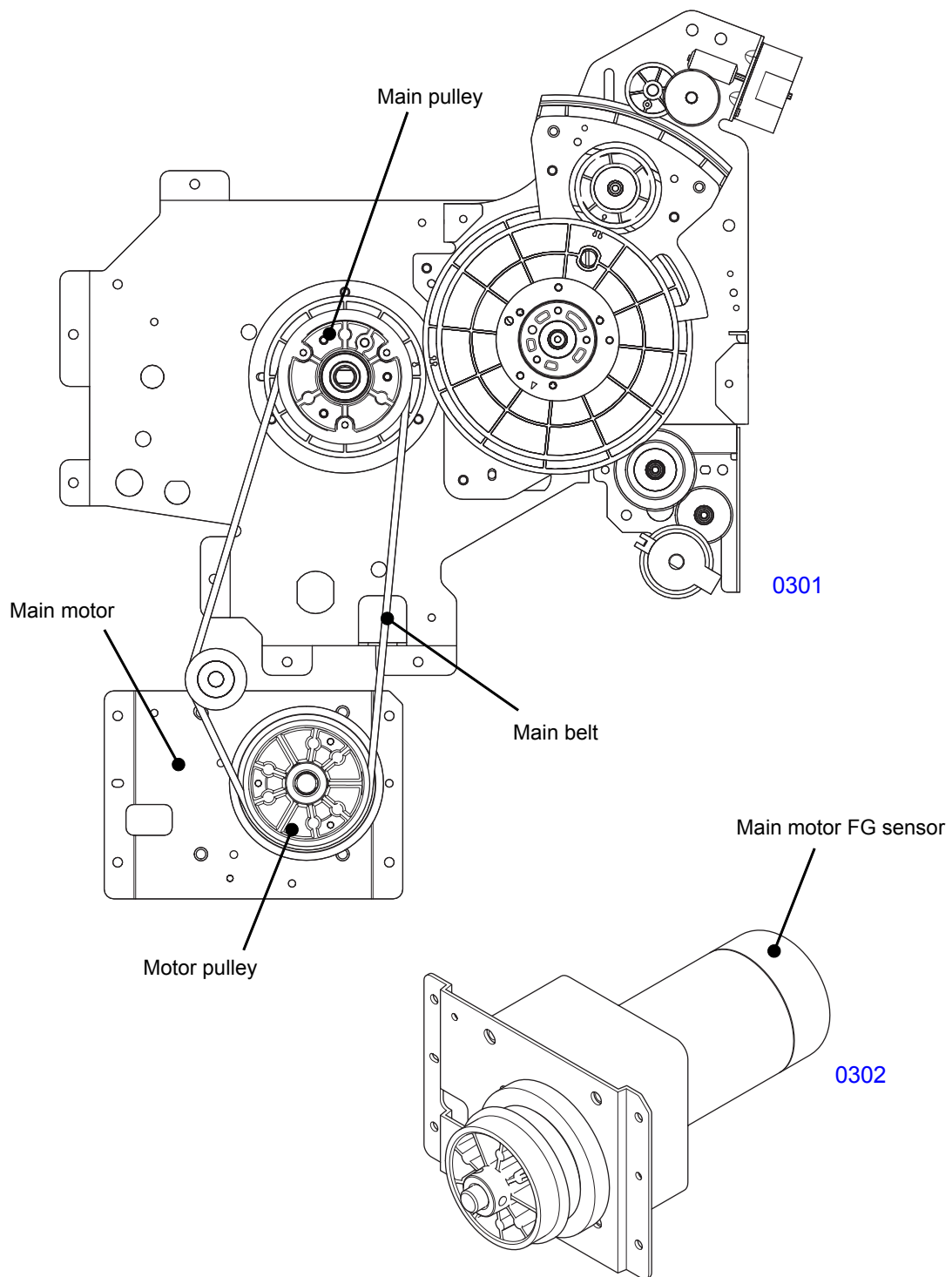
ADJUSTMENT

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Mechanism

1. Main Drive Mechanism

When the main motor is turned on, the motor pulley rotates and the rotation is transmitted to the main pulley by the main belt. The main motor FG sensor detects the speed and the angle position of the print drum.



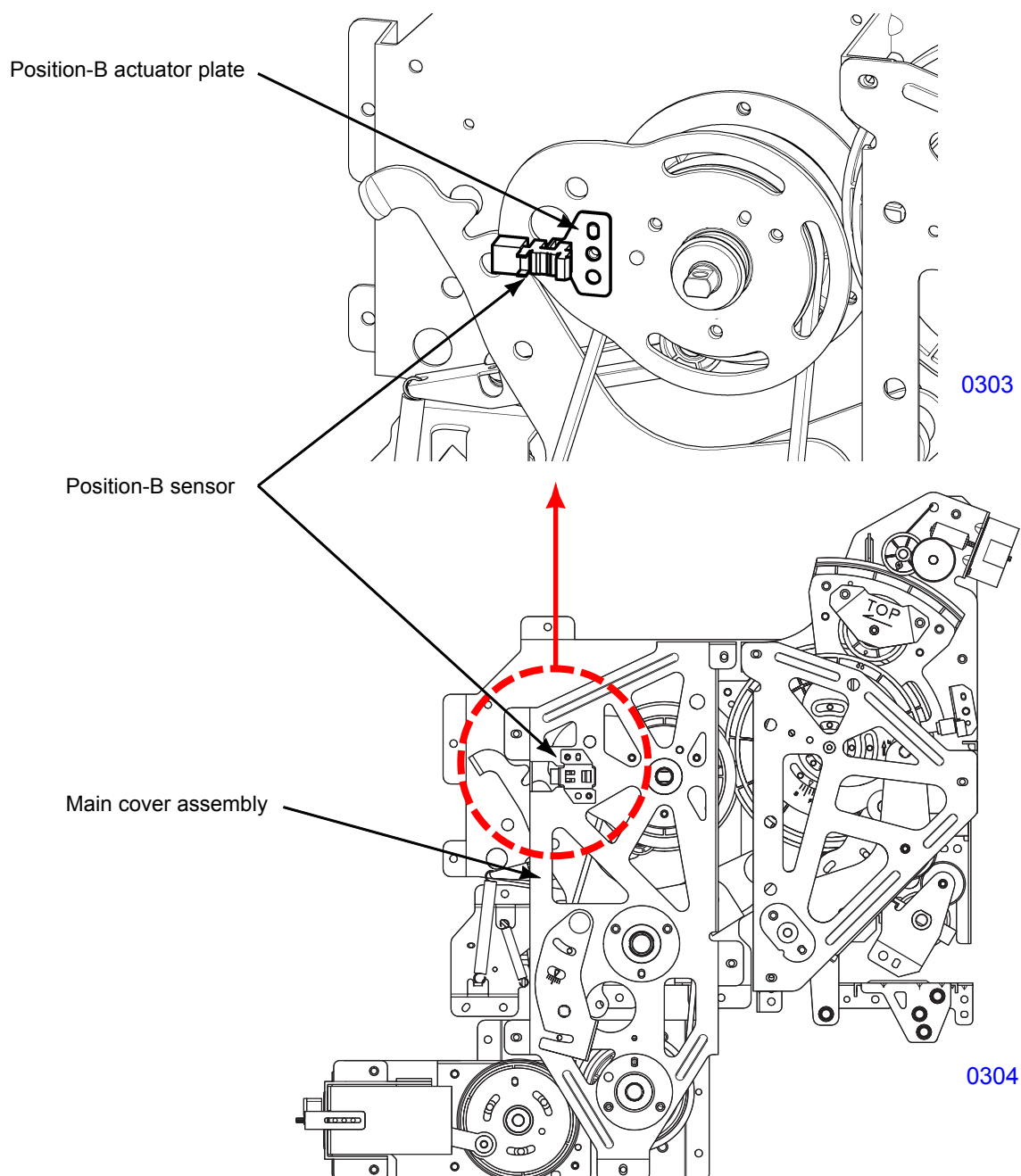
< Main motor >

2. Print Drum Angle Detection

Print drum angles are calculated from the main motor FG sensor count by using following parts.

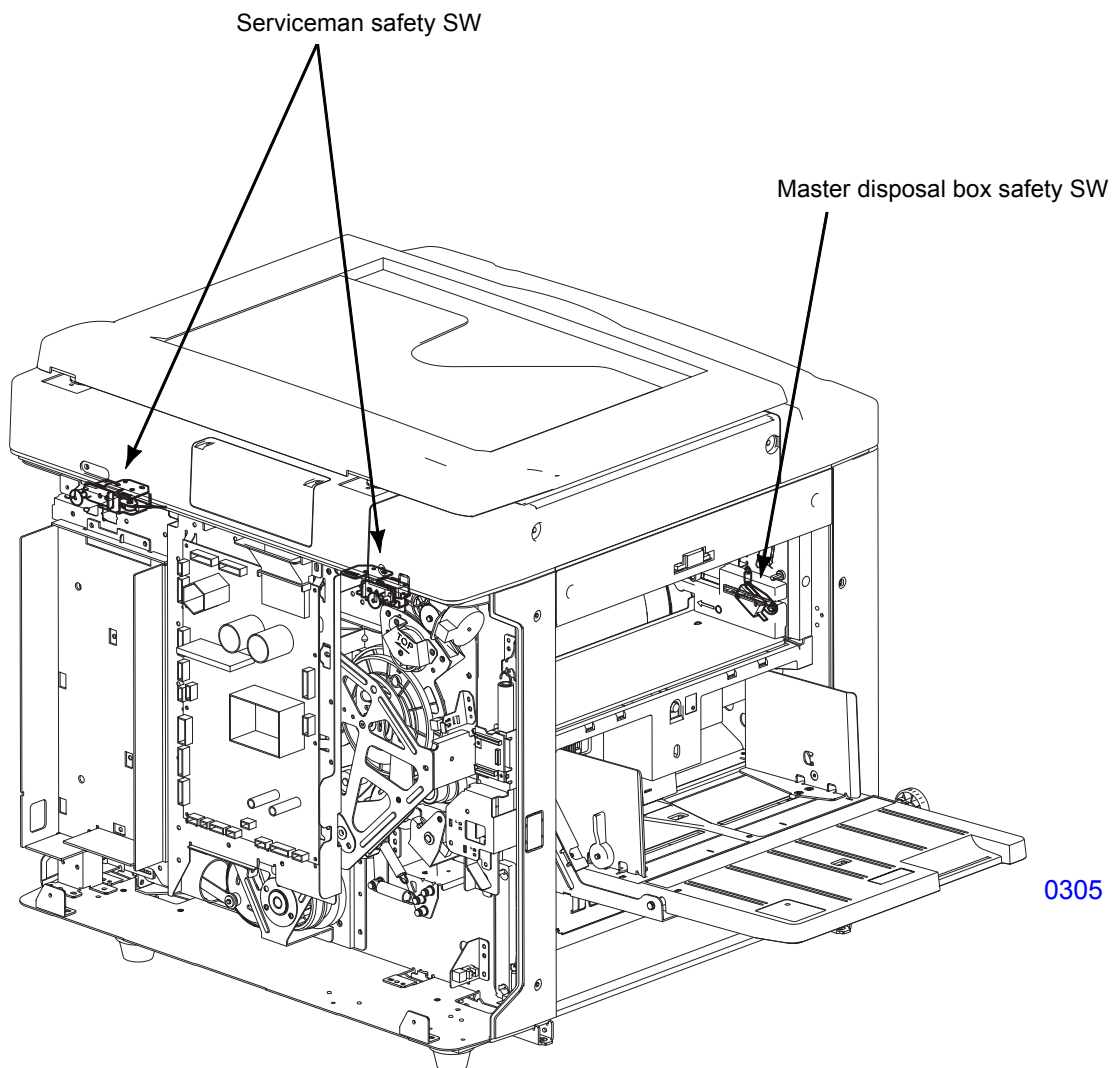
- Main motor FG sensor.
- Position-B sensor on the main cover assembly.
- Position-B actuator plate attached on the pressure cam.

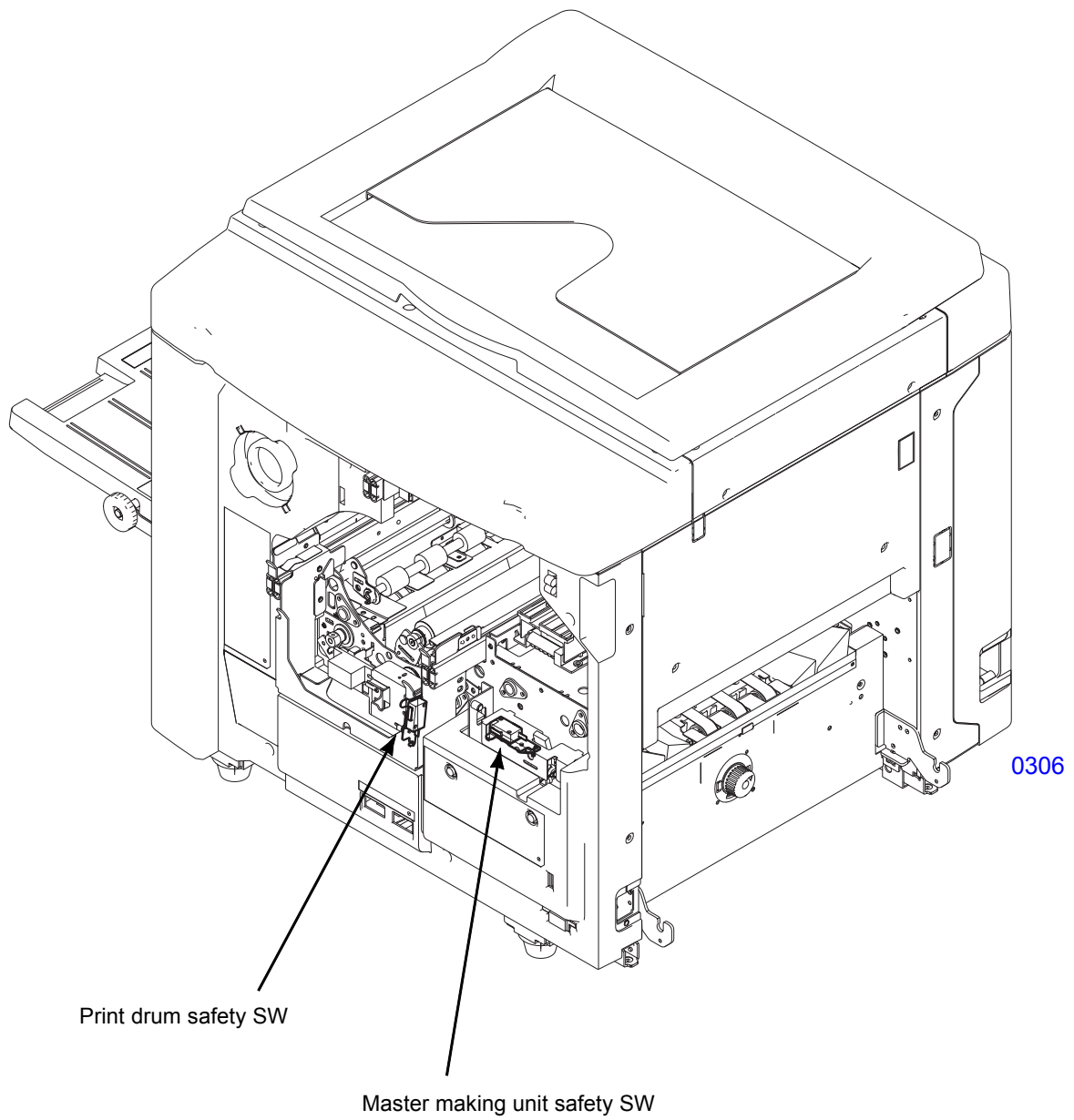
When the position-B actuator plate is detected by the position-B sensor, the print drum rotates for 4 degrees and the machine stops. This is where the center of the actuator plate is in the sensor and we call it the machine position-B. From this position the main motor FG sensor starts counting the pulse to determine the print drum position. The main FG sensor count is 2933 pulses for one full rotation from position-B to the next position-B. 326 pulse count is approximately 40 degrees turn from position-B, and this is where the print drum angle is 0 (zero) degrees and is called position-A of the print drum and this is the position in which the clamp plate is on the top and clamps the master during the master making operation.



3. Main Motor Safety Mechanism

Five safety switches (Serviceman safety SW, Master disposal box safety SW, Master making unit safety SW and Print drum safety SW) prevent the main motor, clamp motor, master removal vertical transport motor and master compression motor from turning ON when any one of these safety switches are not in contact.



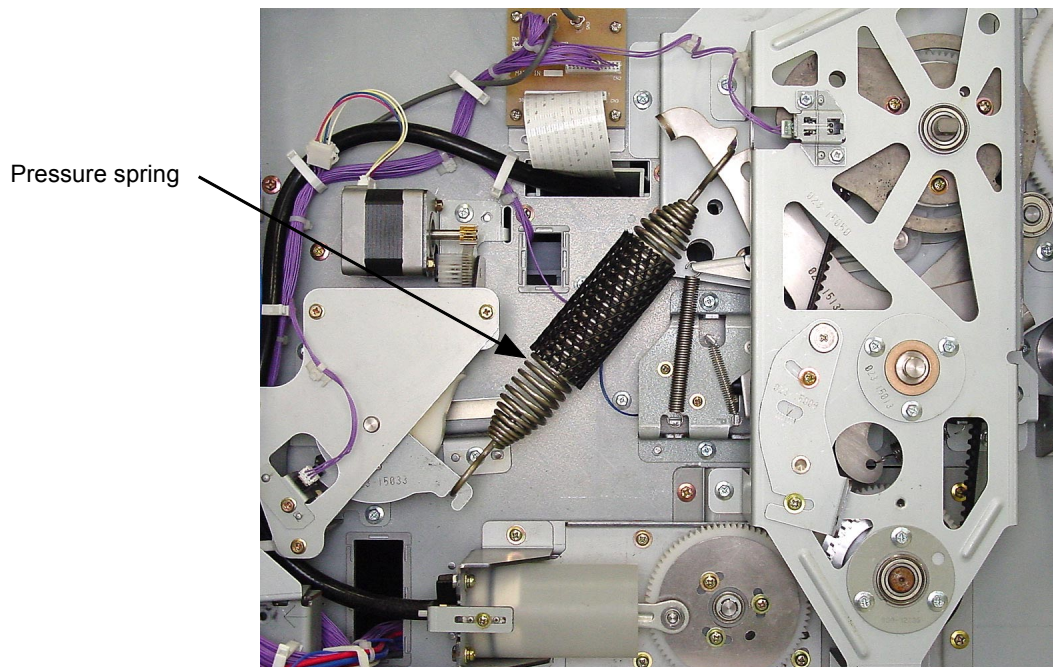


Disassembly

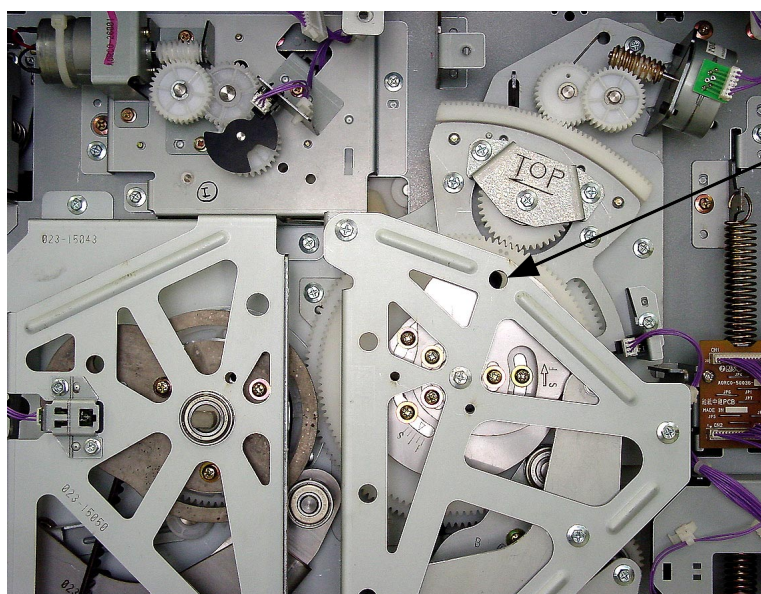
< Following two points must be followed when working on the drive area for SAFETY reasons. >

- 1) When performing maintenance on the main drive section and pressure section, remove the pressure spring at the start of the disassembly, and attach it only at the end of the reassembly.
- 2) Set the vertical print position at center (home position), and insert 8mm dia. JIG shaft into the position-B phase alignment hole, located on the paper feed timing area, to prevent the drive area from moving.

<Power to the machine should never be applied when the JIG shaft is inserted in the machine.>



0307



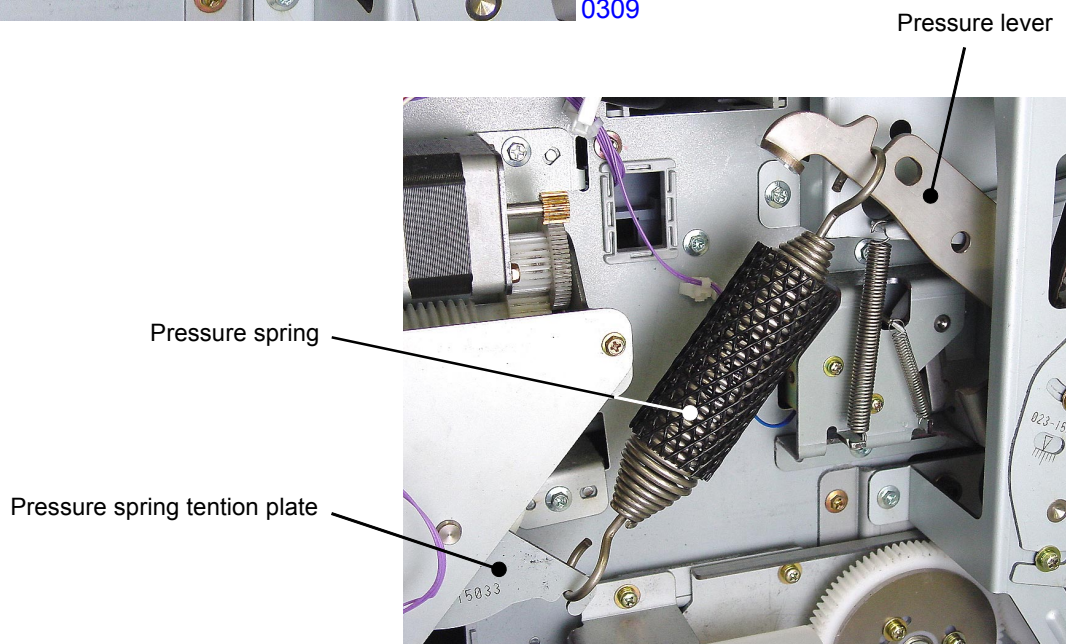
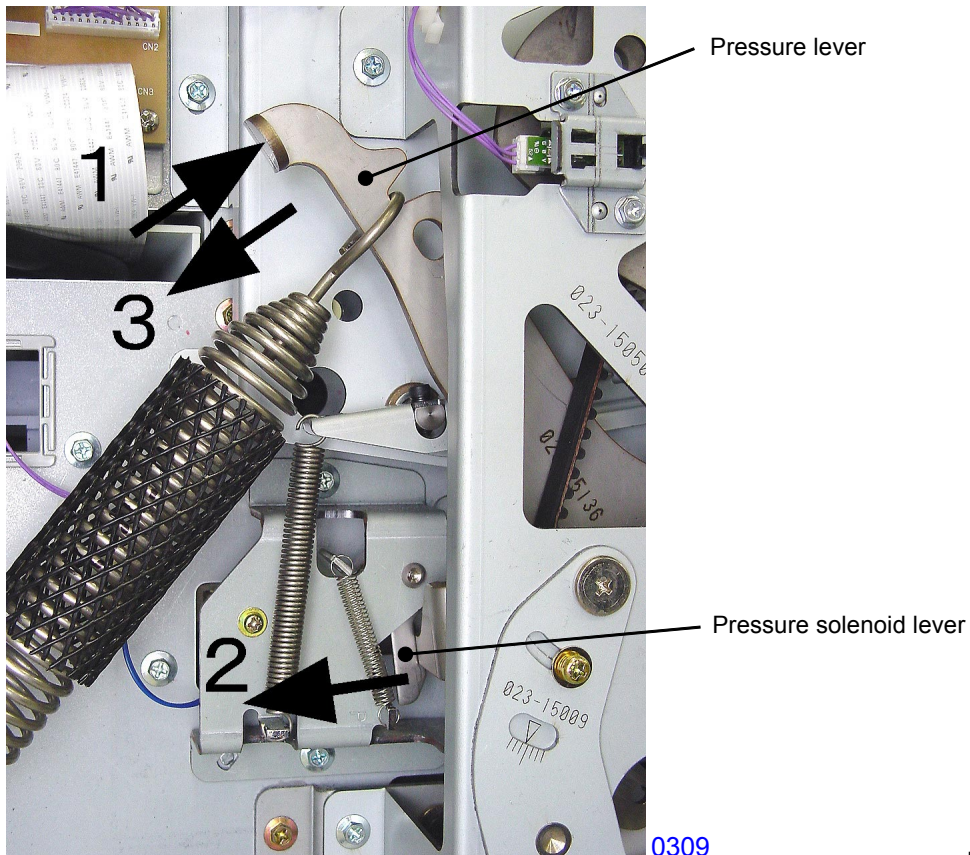
Position-B phase alignment hole on the paper feed timing area, in which 8mm dia. JIG shaft is inserted.

< Power to the machine should never be applied when the JIG shaft is inserted in the machine. >

0308

1. Removing the Pressure Spring

- (1) Run Test mode No.908 (Pressure control maintenance positioning adjustment), unplug the print drum and switch off the machine power.
- (2) Remove the rear cover and swing open the mechanical control & power supply PCB bracket.
- (3) Push the pressure lever over to the right and unhook the pressure solenoid lever from the pressure lever. Then return the pressure lever slowly to the left.
- (4) Detach the pressure spring from the pressure lever after removing the other end from the pressure spring tension plate.

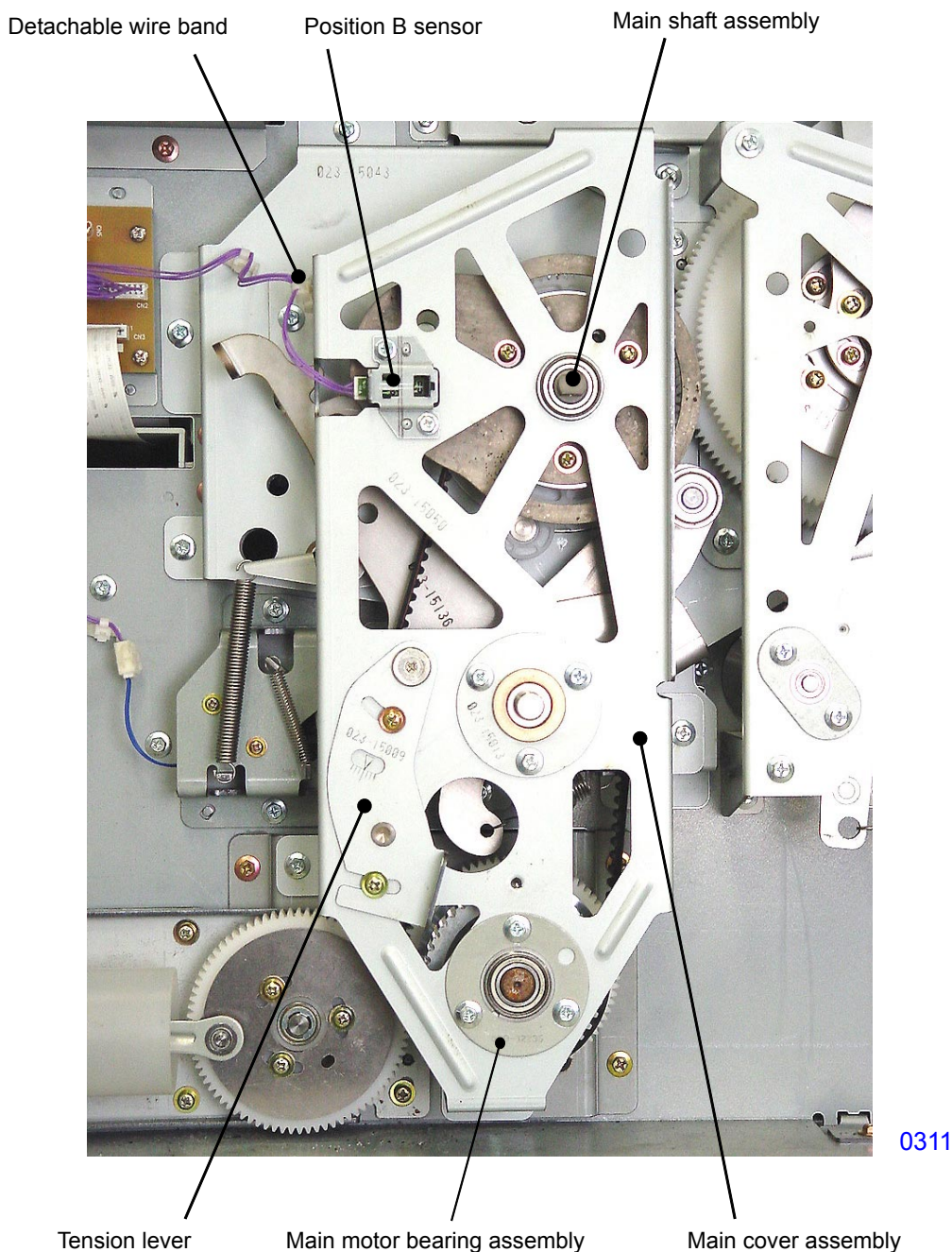


2. Removing the Main Belt

- (1) Remove the Pressure spring.
- (2) Insert 8mm diameter shaft JIG into the position-B phase alignment hole on the paper feed timing area (refer to page 3-6.)
- (3) Unplug the position B sensor connector and remove detachable wire band (1 pc) from main cover assembly.
- (4) Loosen screws (M4x8 : 2pcs) on the tension lever, and release the tension of the main belt.
- (5) Detach the main motor bearing assembly (M4x8 : 3pcs).
- (6) Dismount the main cover assembly (M4x8 : 5pcs).

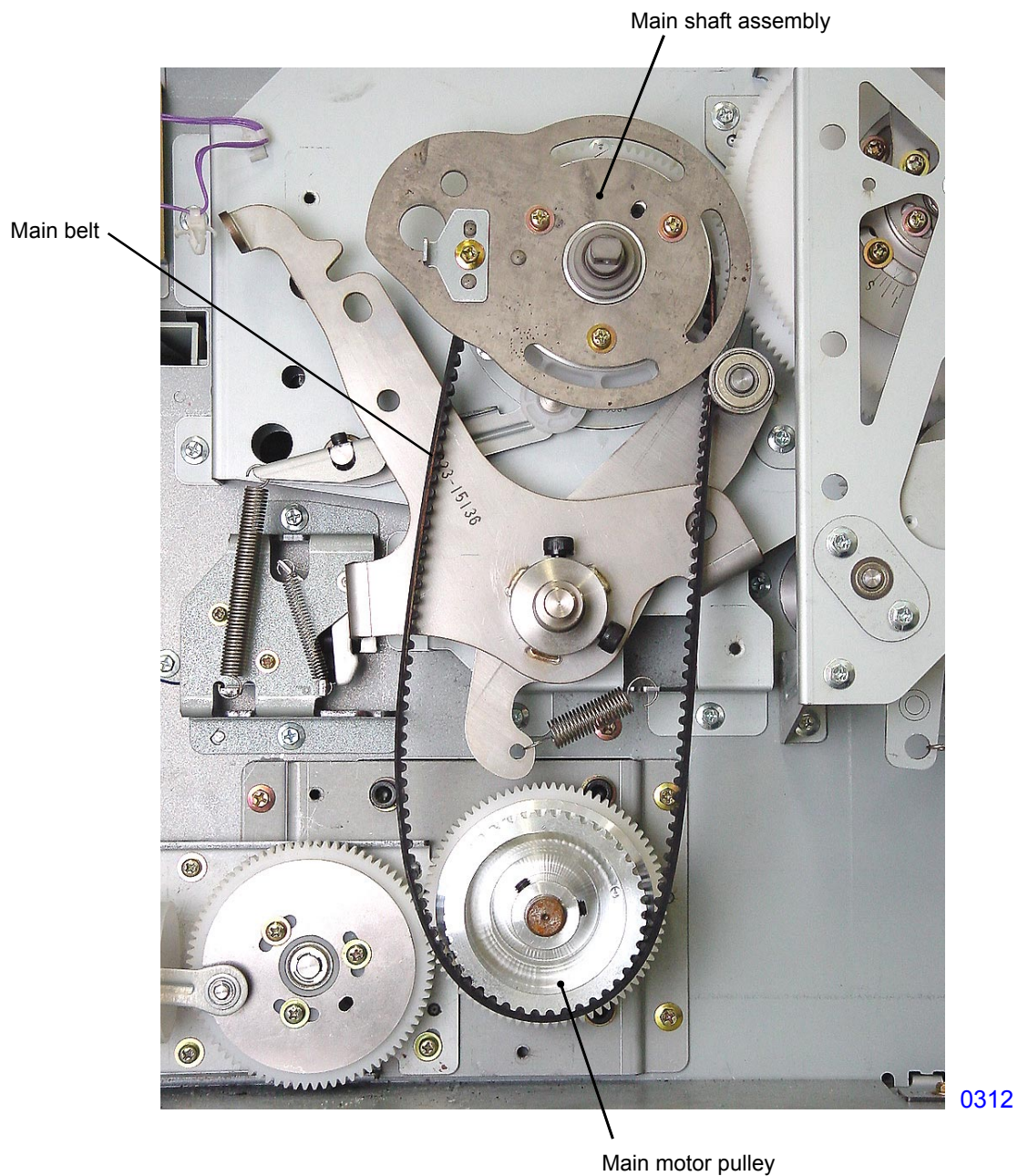
* Dismount the main shaft assembly slowly to avoid pulling the main shaft assembly off the machine.

- continued on next page -



0311

(7) Remove the main belt from the Main shaft assembly and main motor pulley.

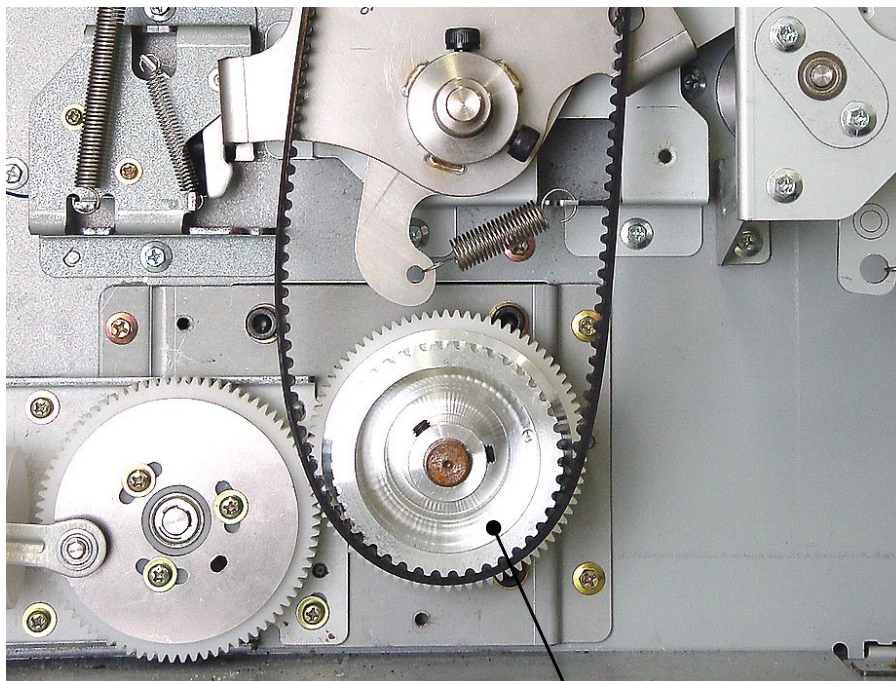


< Precautions in assembly >

- When putting the Main cover assembly back on the machine, push it firmly against the machine.
- Tighten the screw on the far top right on the Main cover assembly first.

3. Removing the Main Motor Pulley Assembly

- (1) Remove the Main belt from the machine (Refer to page 3-8).
- (2) Loosen set screws (M6x8: 2pcs), and detach the main motor pulley assembly.

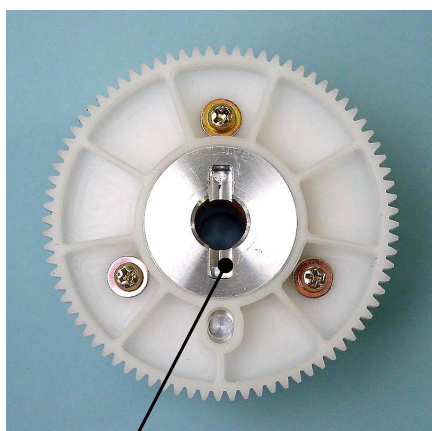


0313

Main motor pulley assembly

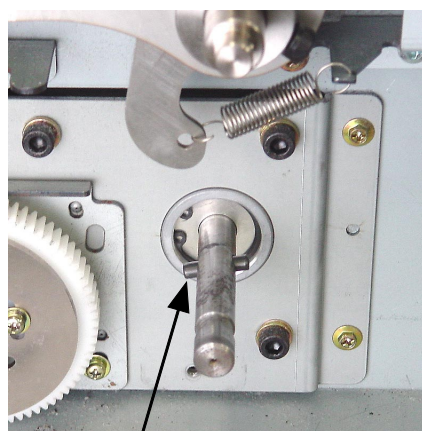
<< Precaution in assembly >>

- Align the groove made on the back of the Main motor pulley assembly against the Parallel pin on the Main motor shaft.



0314

Groove on the back of the Main motor pulley.

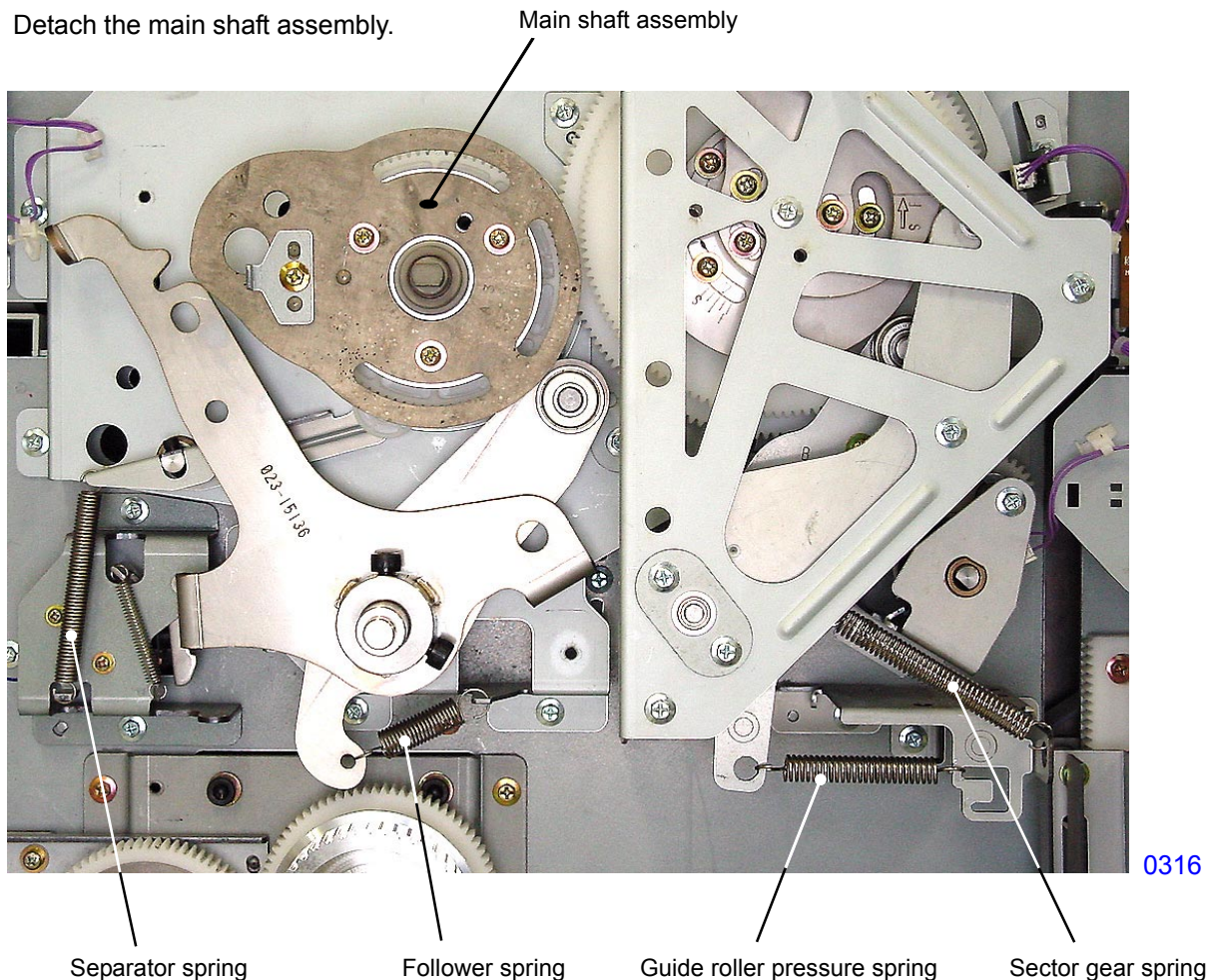


0315

Parallel pin on the Main motor shaft.

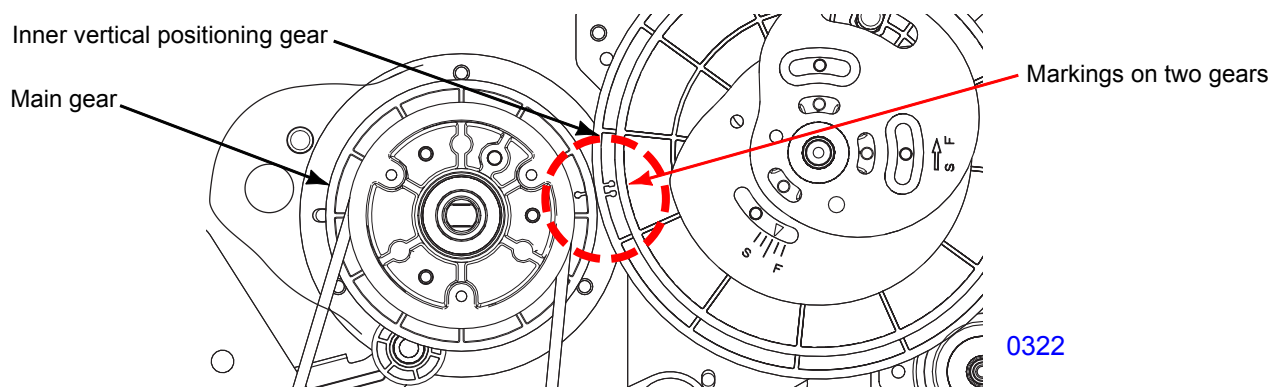
4. Removing the Main Shaft Assembly

- (1) Remove the Main belt from the machine (Refer to page 3-8).
- (2) Remove the following springs.
 - Separator spring
 - Follower spring
 - Sector gear spring
 - Guide roller pressure spring
- (3) Detach the main shaft assembly.



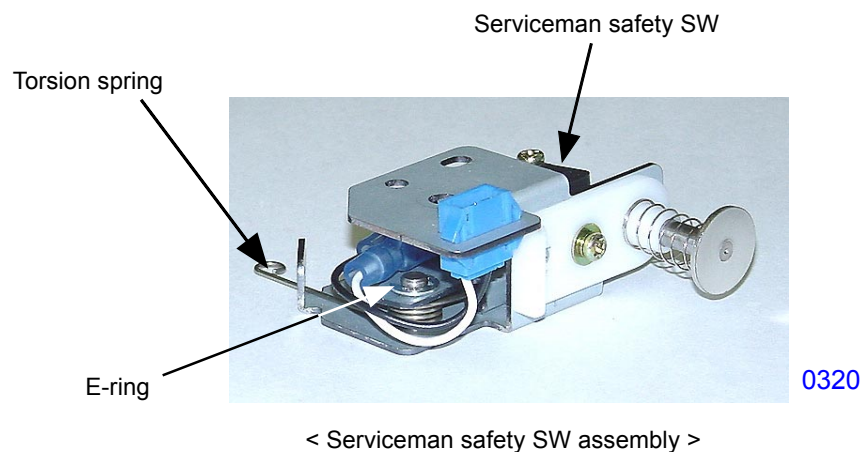
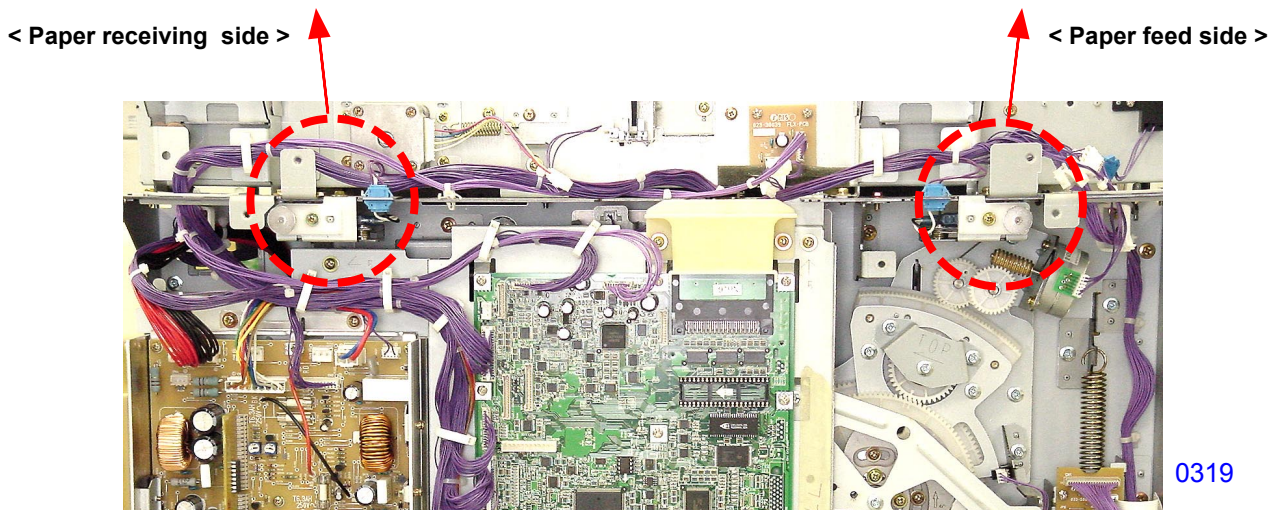
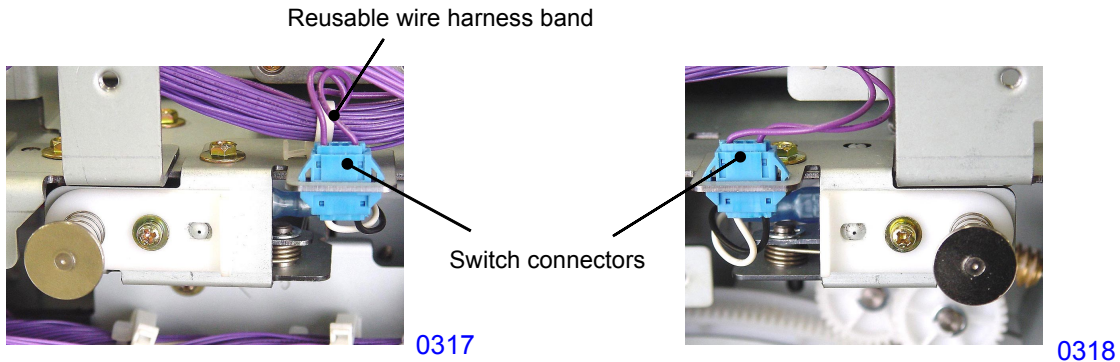
<< Precaution in assembly >>

- In attaching the Main shaft assembly back on the machine, first insert the 8mm diameter jig shaft in the paper feed drive area to fix the gears at Position-B, and then mount the Main shaft assembly back on the machine, aligning the markings between the Main gear and the Inner vertical positioning gear.



5. Removing the Serviceman Safety SW

- (1) Switch off the power, and remove the Rear cover and Scanner cover;rear.
- (2) Unplug the connectors from the two switches, and detach reusable wire harness band from the machine frame (on the paper receiving side only).
- (3) Remove a screw each (M4x8: 1pc), and detach the two serviceman safety SW assemblies.
- (4) Release the hook of the torsion spring, detach the E-ring and then remove the serviceman safety SW together with its mounting bracket.



< Serviceman safety SW assembly >

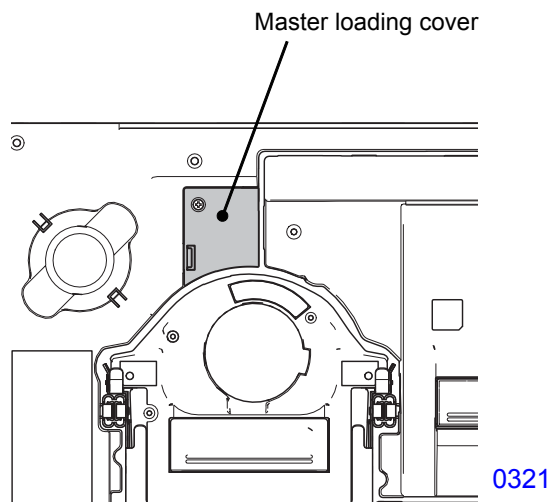
Adjustment

1. Print-Drum <Position-A> Adjustment

Checks and adjustment

- (1) Open the front door.
- (2) Remove a screw (M4x8: 1pc) to detach the master loading cover.
- (3) Go into the test mode, and run Test Mode No.881 (Position-A stop) to rotate and stop the print drum at <Position-A>.
- (4) Run Test Mode No.884 (Clamp 3-step movement) to confirm that when the position-A compensator arm comes down on the print drum on the 2nd of the 3 steps of the test mode, the print drum rotates back a distance of 3mm maximum or stays still. The print drum should not rotate forward when the compensator arm comes down.
- (5) If Position-A of the print drum is not within the specified position, run Test Mode No.941 (Print drum position-A adjustment) to adjust the <Position-A> of the print drum.
- (6) Repeat from step (3) until the position is correctly adjusted.

This adjustment does not affect the print drum position-B stop position.



2. Print-Drum <Position-B> Stop Position Adjustment

Checks and adjustment

- (1) Open the front door and press the green colored print drum release button.
- (2) Confirm that the print drum slides out of the machine smoothly when pulled out by hand.
- (3) If the print drum does not come out smoothly, run Test Mode No. 942 (Print drum Position-B Adjustment) to adjust the position-B stop position of the print drum.
- (4) Repeat from step (1) until the position is correctly adjusted.

This adjustment does not affect the print drum position-A.

NOTE: The print drum position-B stop position is calculated from the position-B of the machine by the pulse count of the main motor FG sensor (refer to page 3-3).

MEMO

CHAPTER 4: FIRST PAPER FEED SECTION

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Mechanism

1. Paper Feed Tray Mechanism

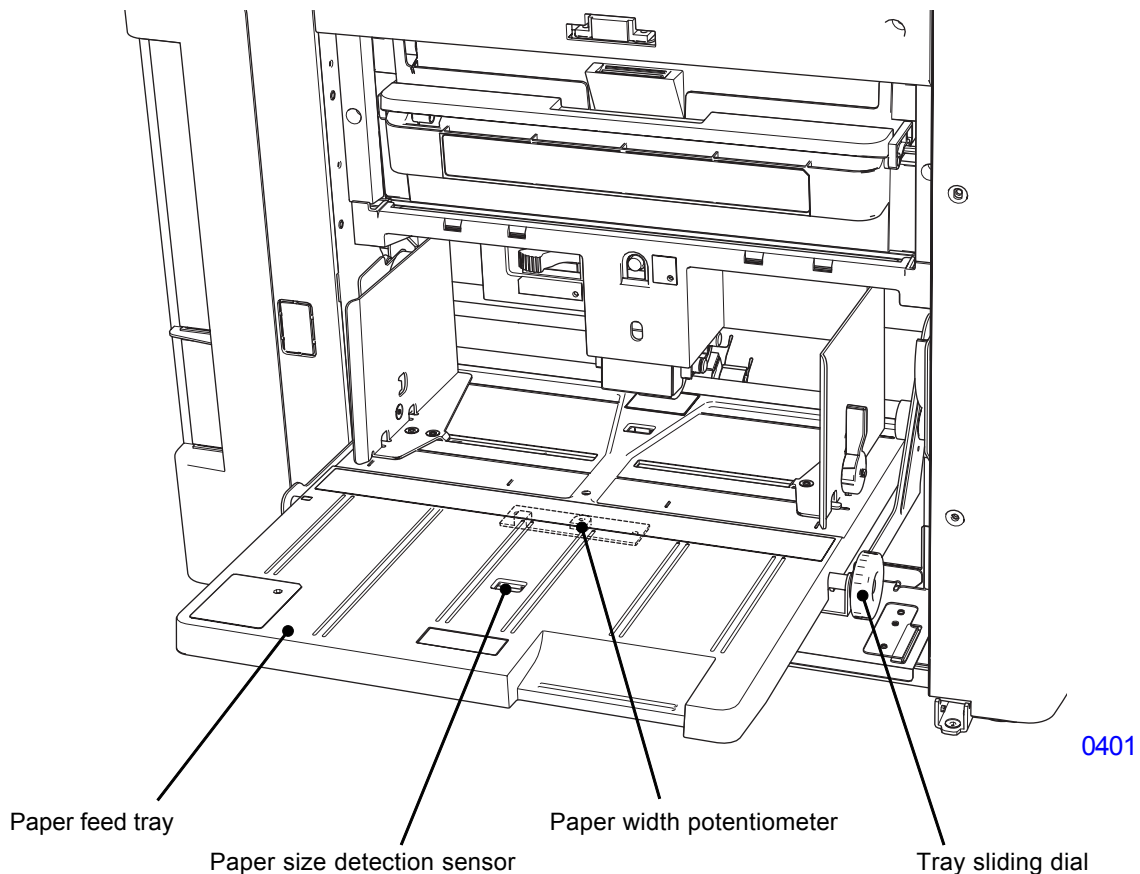
1) Horizontal positioning (horizontal print positioning) of the paper feed tray

The paper feed tray can be moved 10 mm to the right or left by turning the tray sliding dial by hand.

2) Print paper size detection

The paper feed tray uses the paper width potentiometer and paper size detection sensor to detect the size of the paper placed in the paper feed tray.

The paper width potentiometer detects the paper width, and the paper size detection sensor detects the paper length.



2. Paper Feed Tray Elevation Mechanism

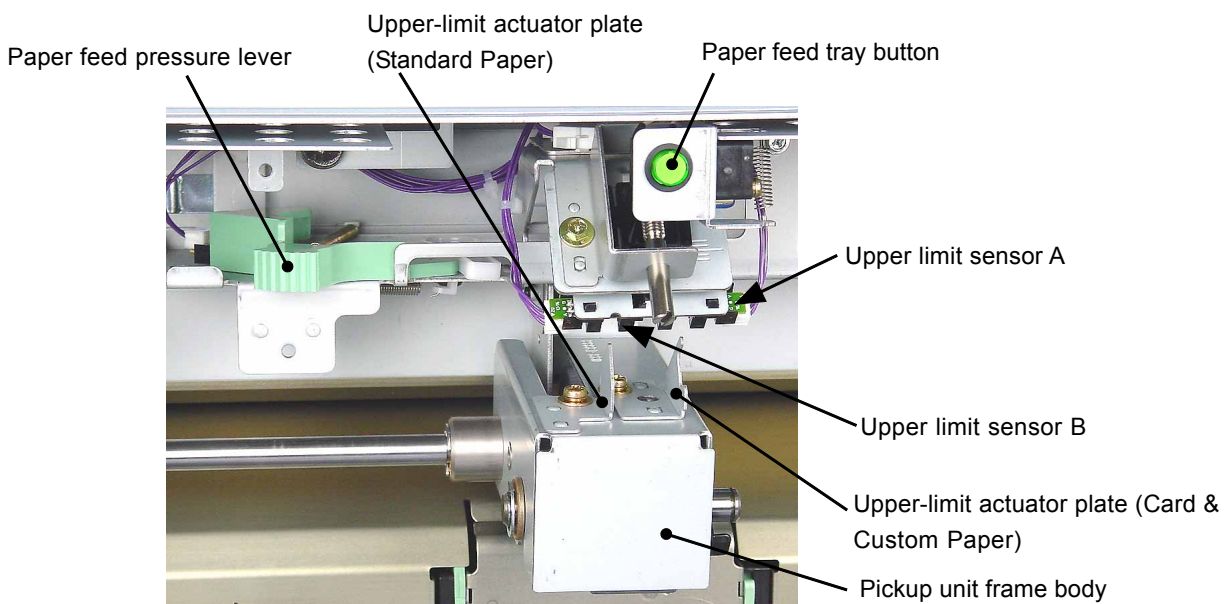
The presence of the paper in the paper-feed tray is detected by the paper-detection sensor.

When the paper is detected on the paper feed tray, and the Start key is pressed for a printing job, the elevator motor makes the paper feed tray to elevates up to the upper limit position.

The machine has two upper limit sensors, A and B. Which one of the two sensors is active depends on the Paper feed pressure lever position.

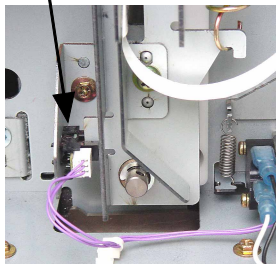
When the paper runs out from the paper feed tray, the feed tray comes all the way down to the lower limit position, which is detected by the lower limit sensor.

Paper feed tray can be lowered when needed by pressing the green colored Paper feed tray button. Releasing the finger from the button in less than 0.7 seconds will allow the try to come all the way down or until the button is pressed again. If pressed over 0.7 seconds, the tray moves down only while the button is pressed.



0402

Lower limit sensor



0403

< View from the rear >



0404

Paper feed tray

Paper detection sensor

Elevator motor

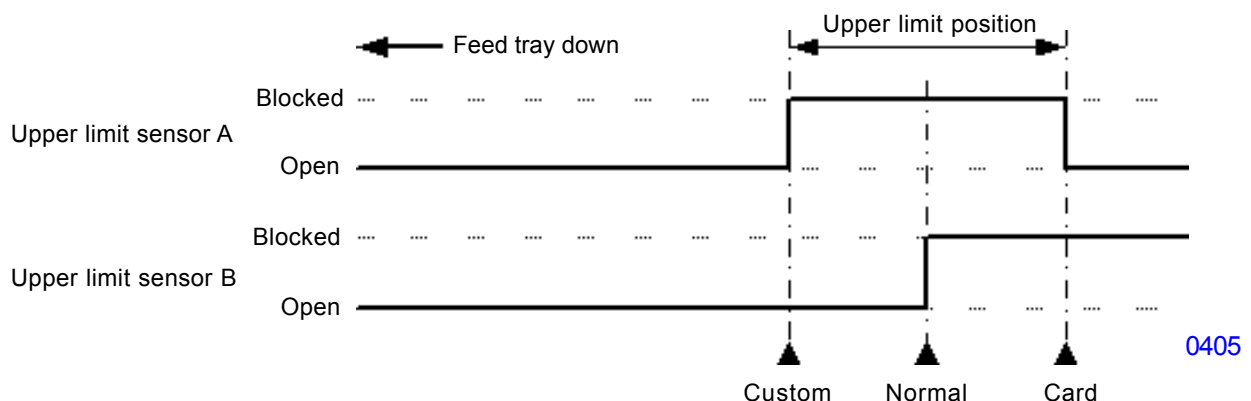
<< Upper Limit Position of the Paper Feed Tray >>

There are two upper limit sensors, A and B. The paper feed tray stops at the Upper-limit position for normal papers using upper limit sensor B and actuator plate (standard). When the plate cuts the light path of the sensor B, the tray stops at the upper limit position. The tray stops at the upper limit position for customs paper using the top edge of the actuator plate (card & custom paper) and upper limit sensor A. The upper limit position of the feed tray for the card is detected by the bottom edge of the actuator plate (card & custom paper) and upper limit sensor A. Once the bottom edge of the actuator plate (card & customs paper) escapes from the light path of the sensor A, the tray stops at the upper limit position for the card papers.

The chart at the bottom of the page shows the relation between the two sensors and the two actuator plates against the upper limit stop positions. The Card position is the highest, the Normal is second highest and the Custom is the lowest stop position.

The upper limit stop position of the paper feed tray can be selected by using test mode No. 740. Selecting Auto by the test mode allows the tray to top at Normal position when the paper feed pressure lever is at Normal. If the lever is set to Card, the tray will stop at the Card position. If by the test mode either Normal, Card or Customs is selected, that would be the tray stop position independent from the paper feed pressure lever position.

The machine operator is also able to adjust the paper feed tray height by making a selection from the Function Tab of the operation panel. By following the steps, Functions = Paper Feed Adj. = Manual = S-Tray Upper Limit, the operator is able to select either [-1], [0] or [+1]. If the operator selects [-1], the paper feed tray upper limit will be equivalent to the Card position. [0] will be Normal position, and [+1] will be equivalent to the Custom position. < Refer to page 4-7 for the details. >

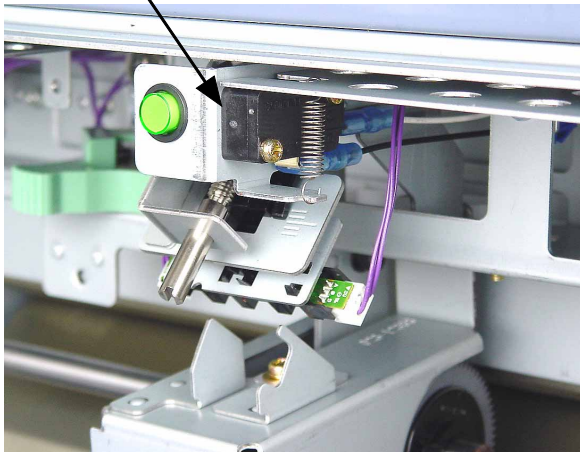


3. Paper Feed Tray Safety Mechanism

The paper feed tray upper safety switch and the paper feed tray lower safety switch ensure the safety while the paper feed tray is being raised or lowered.

If the paper feed cover is pushed up, the paper feed tray upper safety switch goes OFF, and if the lower limit frame is pressed down, the paper feed tray lower safety switch goes OFF. If either one of the two safety switches goes OFF, the elevator motor is turned off.

Paper feed tray upper safety switch



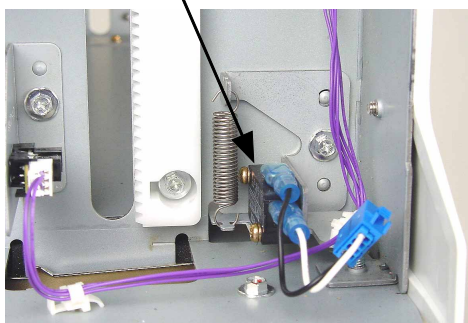
0407



0406

Paper feed cover

Paper feed tray lower safety switch



0409



0408

Lower limit frame

4. First Paper Feed Drive Mechanism

When the Start key is pressed for a printing job, the Main motor activates and the drive is transferred by the main belt to rotate the print drum.

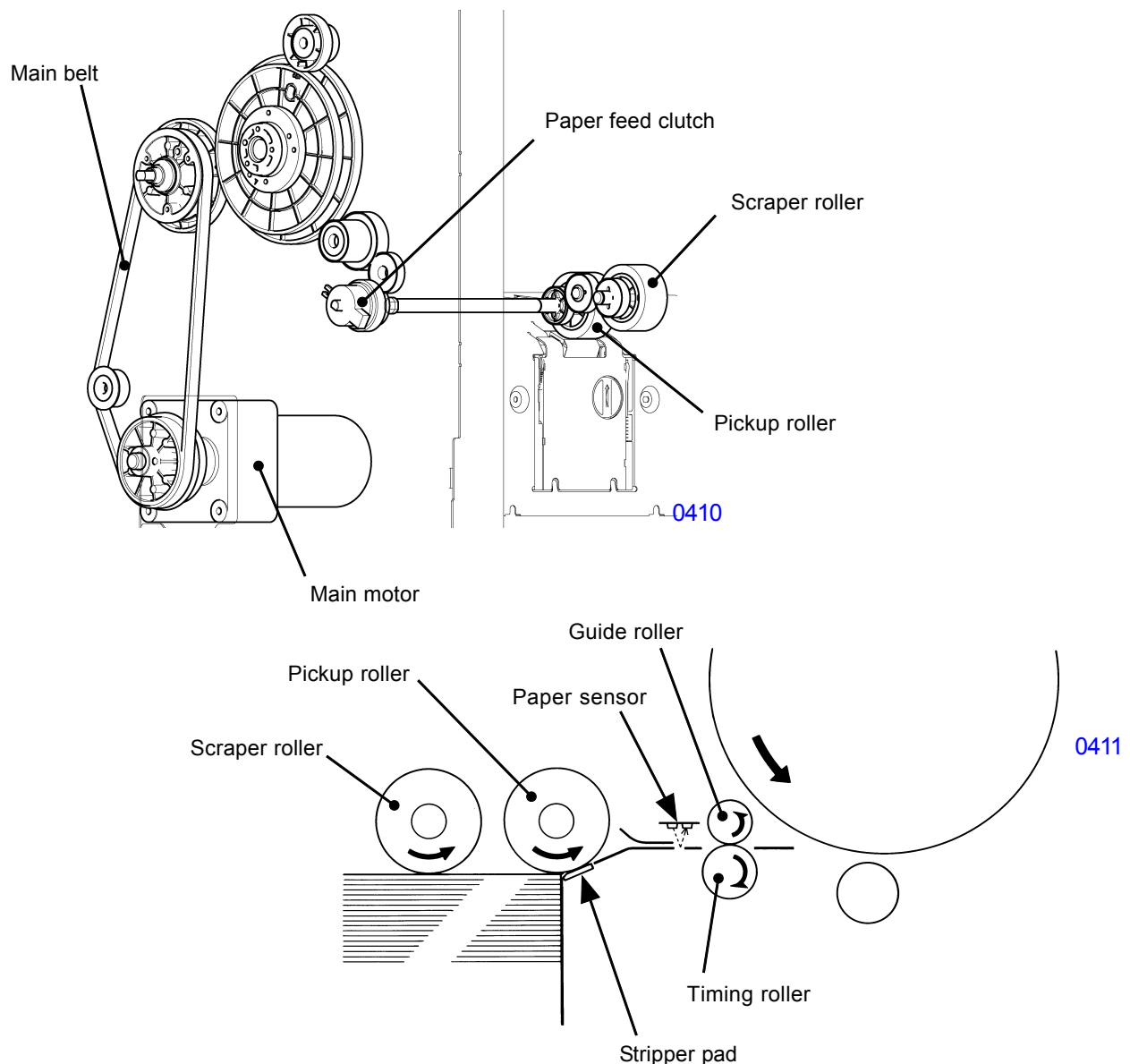
When the print drum rotates to a certain angle from the position-A, the paper feed clutch activates and rotates the scraper and the pickup rollers, sending the paper on the paper feed tray into the machine.

As the paper is fed into the machine, the leading edge of the paper blocks the light path of the paper sensor.

At a certain drum angle from when the light path of the paper sensor is cut, the paper feed clutch deactivates and finishes the first paper feeding action. When the first paper feeding ends, the leading edge of the paper is hitting against the timing roller and guide roller (the two rollers are touching each other and blocking the paper path), and makes a buckle at the tip.

At the same time the paper feed clutch activates, the paper sensor checks whether the paper is picked up from the paper feed tray or not. If the paper sensor does not detect the paper coming into the machine, it is judged that no first paper feeding was made and shows paper jam message.

Both the scraper roller and pickup roller have built-in one-way bearing for a free rotation, allowing the paper to be picked up by the second paper feed mechanism without the drag of the first paper feed area.



5. Paper Feed Adjustment (from the Function tab of the operation panel)

From the Function tab of the LCD display, chose the Paper Feed Adj. button and open the paper adjustment screen. By selecting the Manual button, the screen shown as Fig.1, below, appears. The paper feed tray upper limit position and paper buckle amount can be adjusted. The adjustment can be registered for maximum of six (6) custom papers. The Fig.1 screen is for adjusting the paper-feed-tray upper limit position and the paper buckle amount. By pressing the Specific button at the bottom-right-hand-corner of the screen (Fig.1), the screen changes (ref: Fig.2). The Fig.2 screen has the adjustment values for the Paper feed clutch ON and OFF timing adjustment. The clutch OFF timing value on Fig.2 screen corresponds with the Fig.1 screen paper-feed amount, and vice versa, except the Fig.2 screen has wider clutch OFF timing adjustable range. The clutch ON timing value on Fig.2 screen is independent from Fig.1 screen adjustment. Press OK button after making the adjustment. The screen changes to as shown by Fig.3. The adjusted values are registered, up to six, by using the <A-1> to <A-6> buttons, as shown on Fig.3.

In printing operation, by recalling one specific button from <A-1> to <A-6>, the registered upper limit position of the paper feed tray and the paper buckle amount can be selected for special paper, which does not feed well by normal setting. The selected paper feed adjustment setting is applied on the printing job until the machine power is turned OFF, Auto key is re-selected by the Fig.1 screen, or if the Admin. tab is opened.

Fig. 1

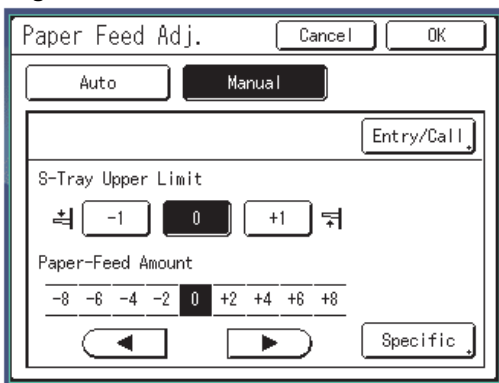


Fig. 2

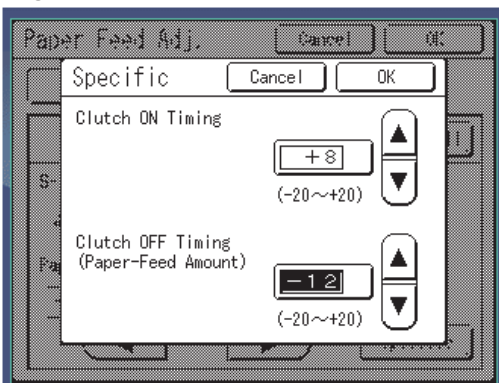
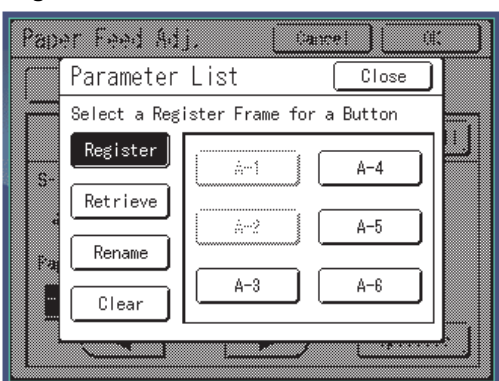


Fig. 3



Adjustments made by the Fig.1 Screen

< Straight-Feed Tray Upper Limit Position >

Selects the stop position of the paper feed tray.

- + 1 : Card paper position High
- 0 : Standard paper position Standard
- 1 : Custom paper position Low

< Paper Buckle Amount >

Selects the Paper feed clutch OFF timing in regard to the pre-programmed print drum angle.

- Adjustable range: - 8 degrees to + 8 degrees.
- (Adjustable by unit of 2 degrees.)

Adjustments made by the Fig.2 Screen

< Paper Feed Clutch ON Timing >

Selects the Paper feed clutch ON timing in regard to the pre-programmed print drum angle

- Adjustable range: - 20 degrees to + 20 degrees.
- (Adjustable by unit of 1 degree.)

< Paper Feed Clutch OFF Timing >

Selects the Paper feed clutch OFF timing in regard to the pre-programmed print drum angle

- Adjustable range: - 20 degrees to + 20 degrees.
- (Adjustable by unit of 1 degree.)

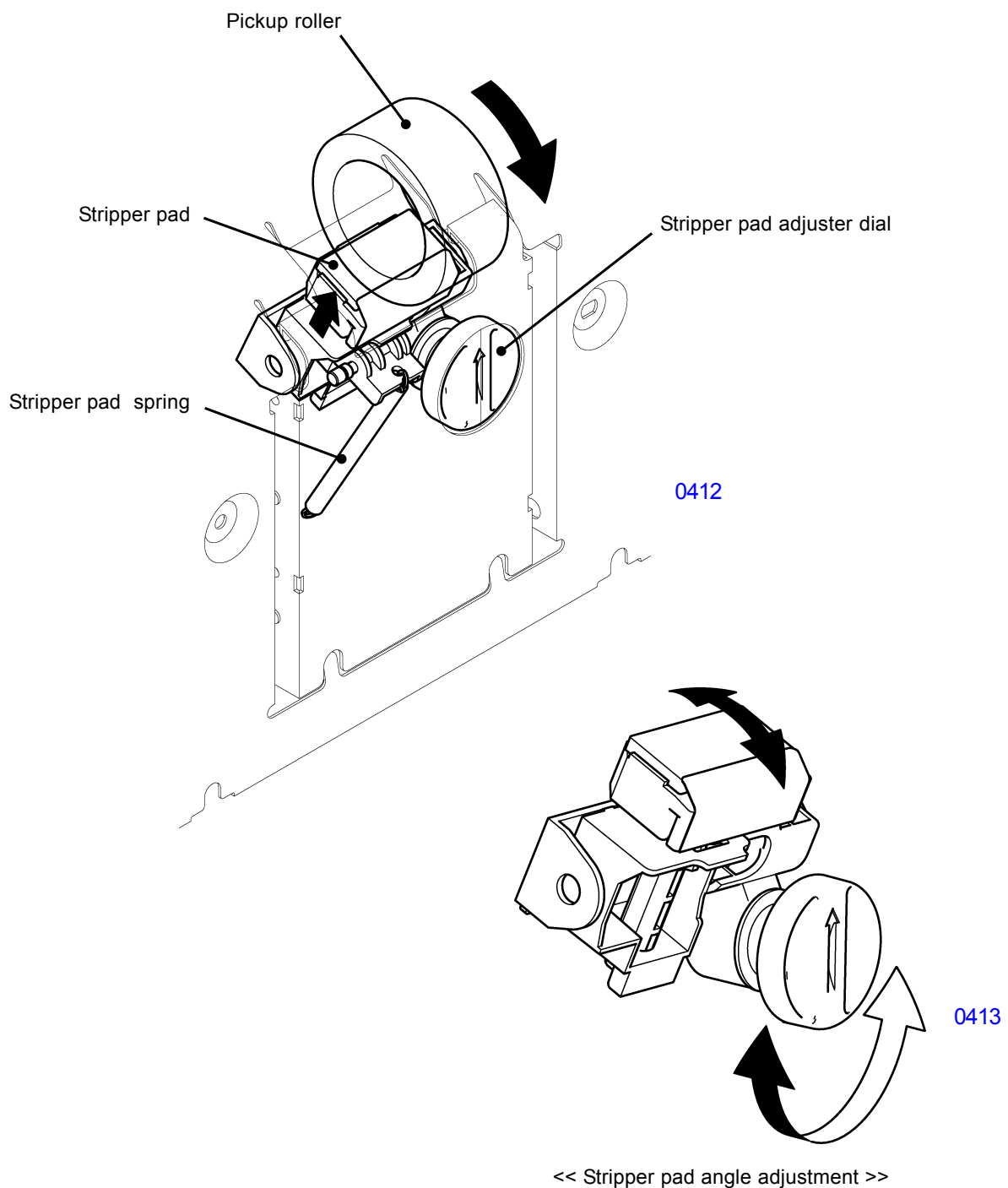
Precaution:

Changing the values by Test mode No. 741 (Paper feed clutch ON timing adjustment) and No. 742 (Paper feed clutch OFF timing adjustment) will change the pre-programmed print drum angle and therefore affects the above adjusted clutch ON and OFF timing.

6. Paper Stripping Mechanism

The papers on the paper feed tray is fed in between the pickup roller and stripper pad by the rotation of the scraper roller. Of the papers pushed in between the pickup roller and the stripper pad, the upper most one sheet is fed into the machine, towards the second paper feed area.

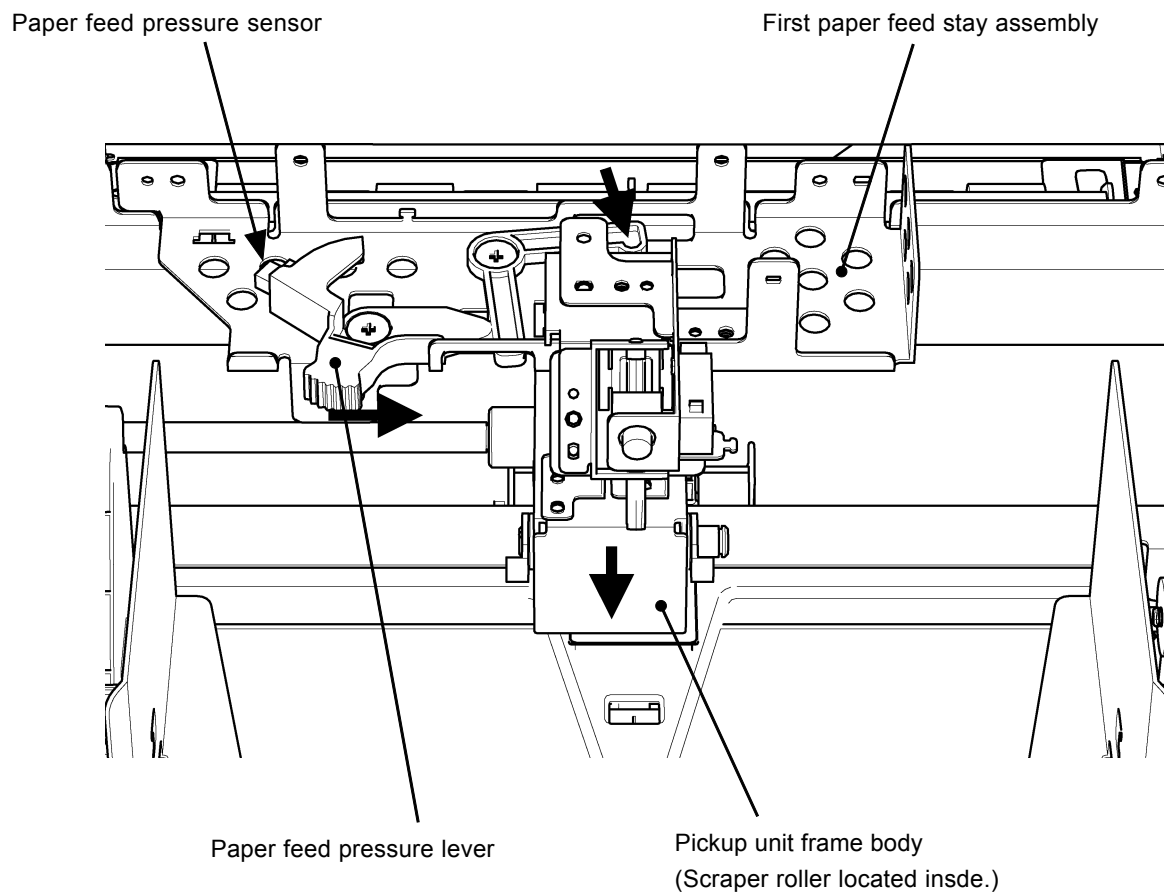
The stripper pad is pressed against the pickup roller by the pull of the stripper spring, creating a resistance to let only one sheet of paper to pass through. The stripper pad angle can be adjusted by the machine operator using the stripper pad adjuster dial.



7. Paper Feed Pressure Adjustment Mechanism

The paper feed pressure adjust lever is located on the left-hand side of the first paper feed stay assembly. Sliding the lever to the right or left changes the paper feed pressure from weak (NORMAL paper) to strong (CARD paper). Sliding the lever to the right increases the paper-feed (scraper) pressure.

To which position the paper feed pressure lever is selected is detected by the paper feed pressure sensor.

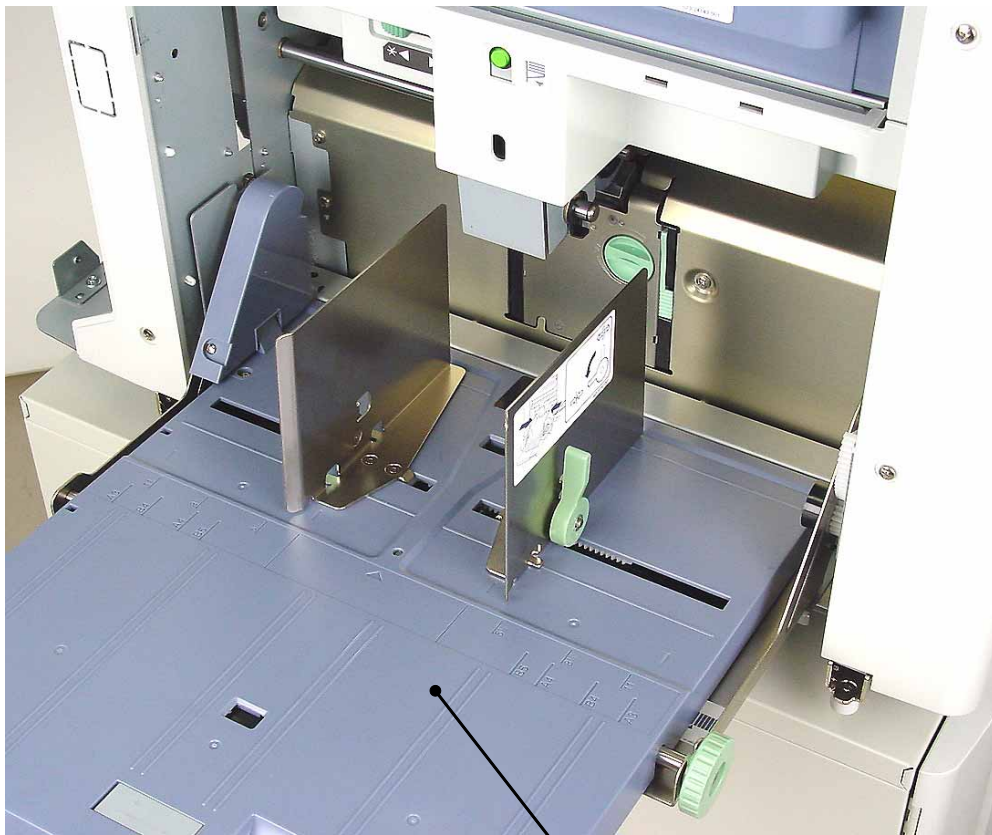


0414

Disassembly

1. Removing the Paper Feed Tray Unit

- (1) Lower the paper feed tray all the way down and switch OFF the machine power.
- (2) Close the paper feed tray and detach the hinge cover by removing screws (M3x6: 2 pcs).
- (3) Open the paper feed tray and remove the flat wire harness cover by removing screw (M3x5: 1pc).
- (4) Remove the connector cover by removing screw (M3x5 :1pc).
- (5) Pull out the flat wire harness from the connector and unhook the wire harness holder (clear Mylar sheet) from the paper feed tray mount.
- (6) Remove E-rings (1pc each) on the left and right of the paper feed tray unit, and remove the tray unit from the machine.



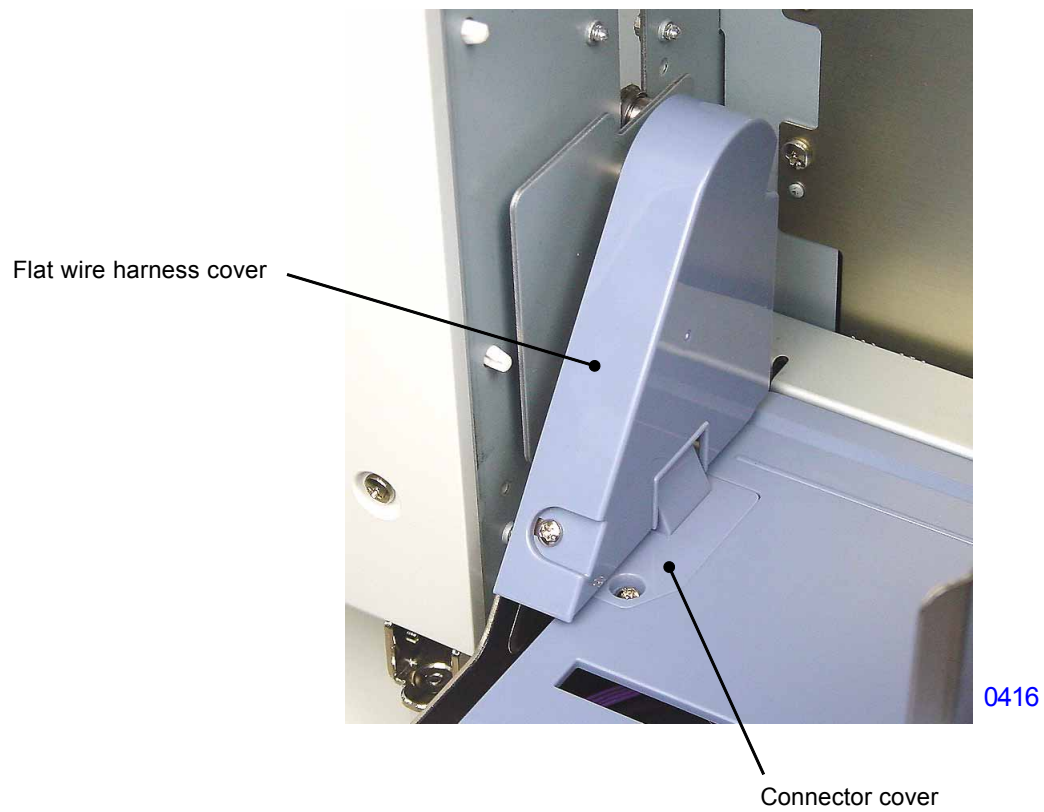
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0447

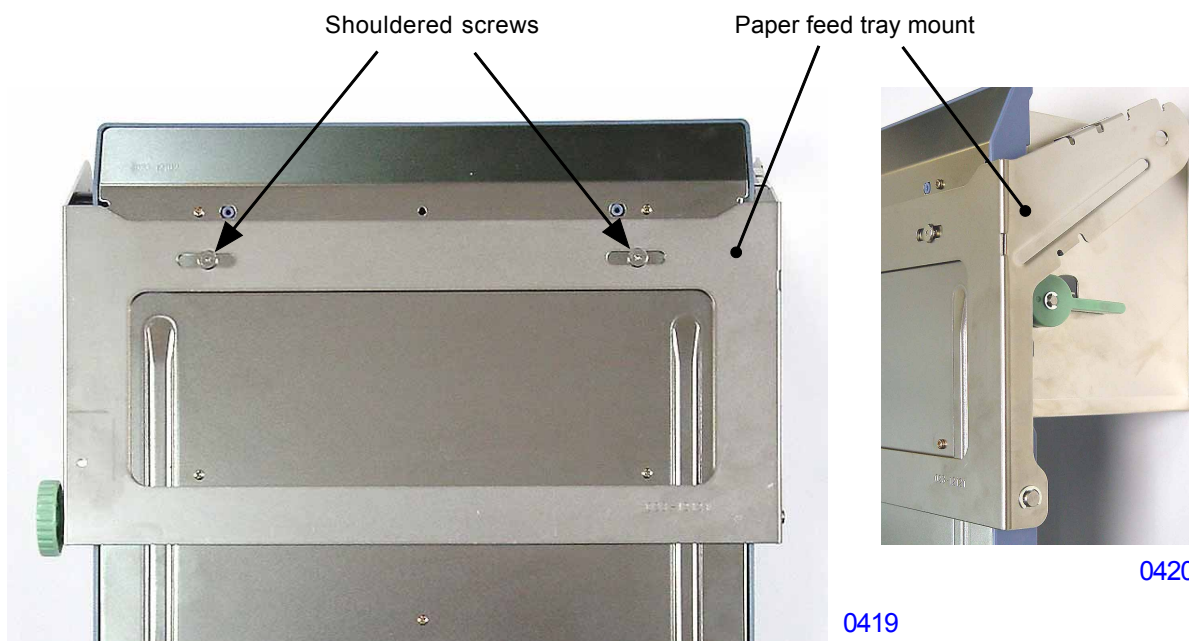
Paper feed tray unit

Hinge cover



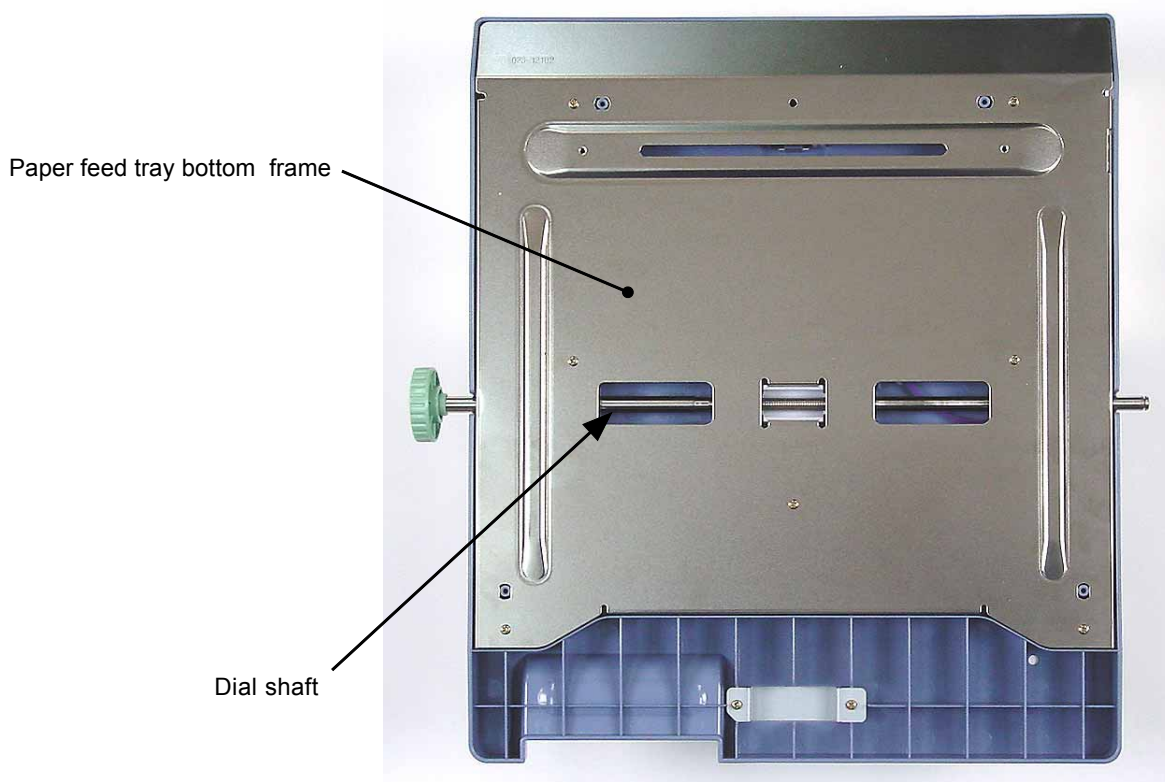
2. Removing Paper Det. Sensor, Paper Size Det. Sensor and Paper Width Potentiometer

- (1) Lower the paper-feed tray all the way down, switch OFF the power to the machine.
- (2) Remove the paper feed tray from the machine.
- (3) Remove two shouldered screws.
- (4) Remove the E-ring on the rear side, slide the Dial shaft to the front, and detach the paper-feed tray mount.
- (5) Remove screws (3x8: 7pcs) and detach the paper-feed tray bottom frame.



< Operator side of machine >

< Drive side of machine >

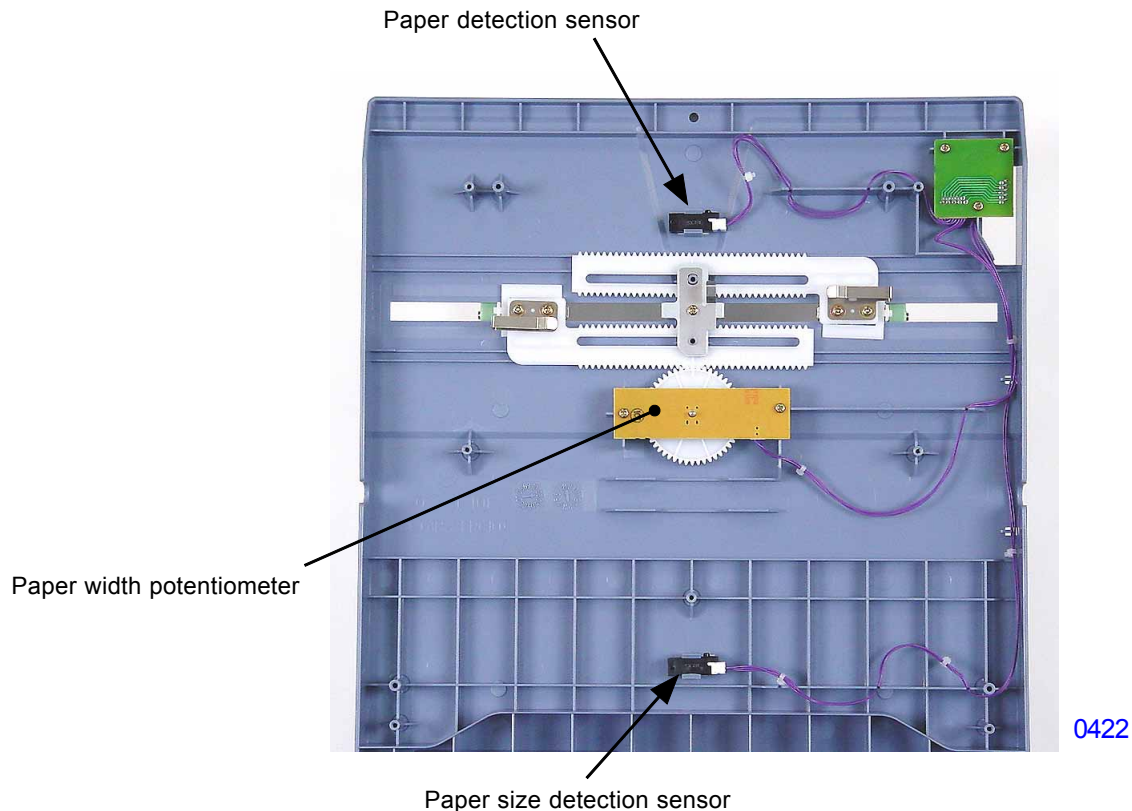


Removing the Paper Detection Sensor and Paper Size Detection Sensor

- (6) Unplug connectors from each sensor and unhook the craws of the sensors and remove from the tray.

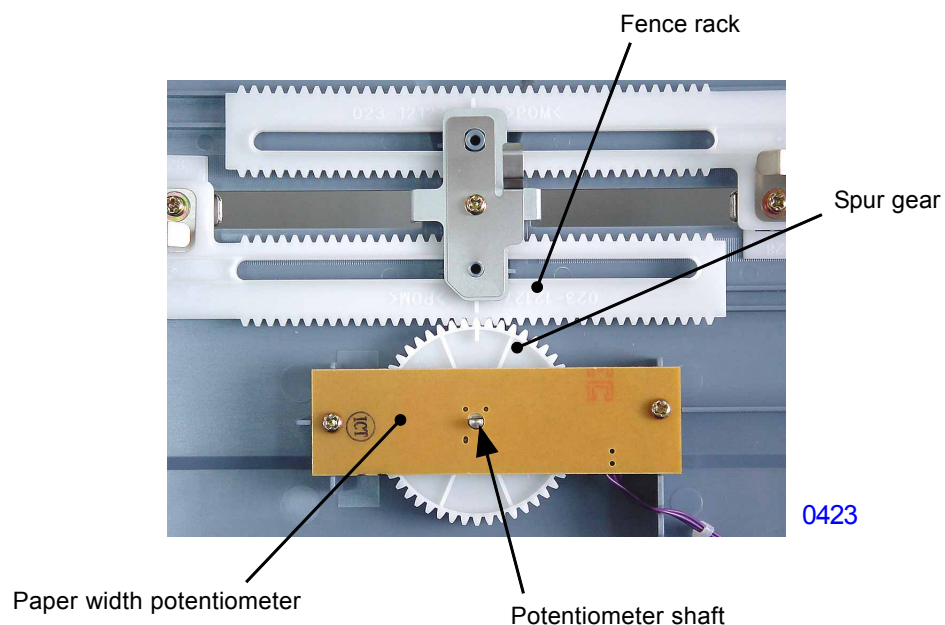
Removing the Paper Width Potentiometer

- (5) Remove screws (3x8: 2pcs), unplug the connector, and remove the paper width potentiometer.



<< Precaution in assembly >>

Align the eye mark line on the fence racks and spur gear in a straight line and insert the potentiometer-shaft through the spur gear. Screw on the paper width potentiometer on the paper feed tray with the flat cut on the shaft hole facing towards the eye mark line on the spur gear.



3. Removing the Scraper Roller and Pick Up Roller

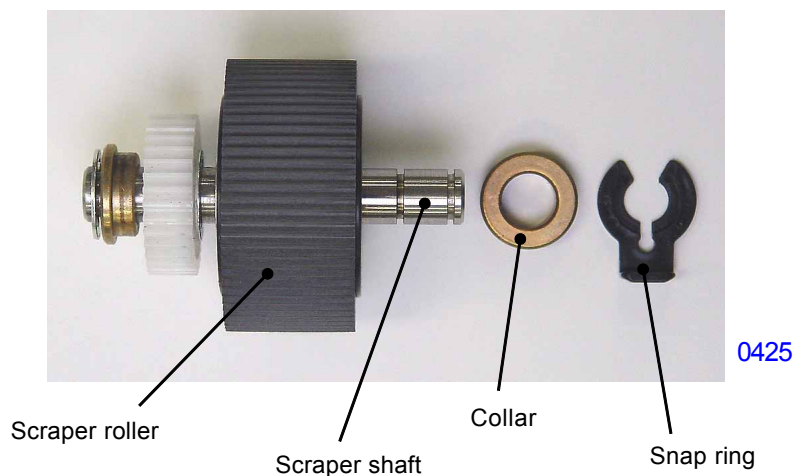
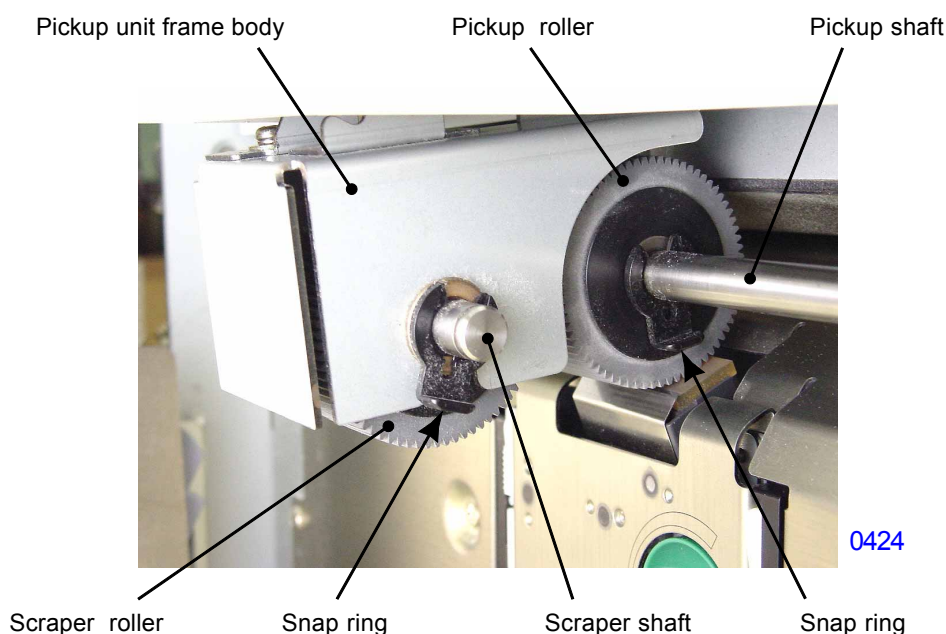
Removing the Scraper Rollers

- (1) Lower the paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the snap ring from the scraper shaft, and detach the collar next to the snap ring.
- (3) Slide the scraper shaft to the rear and remove collar from the pickup unit frame body, and remove the scraper roller from underneath the frame body, together with the scraper shaft.
- (4) Slide out the scraper roller from the scraper shaft.

* Only the rubber wheel of the scraper roller needs to be replaced if the roller is worn. The plastic core of the roller can be reused. This is the same with the pickup roller.

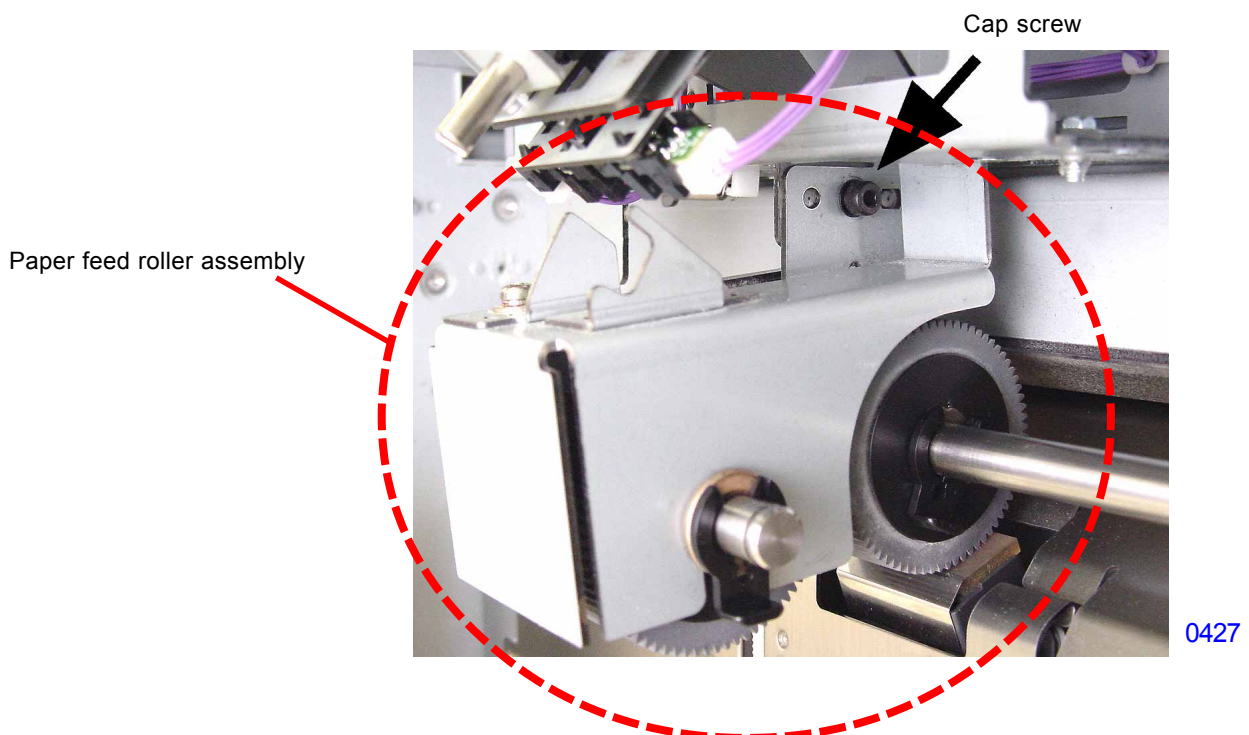
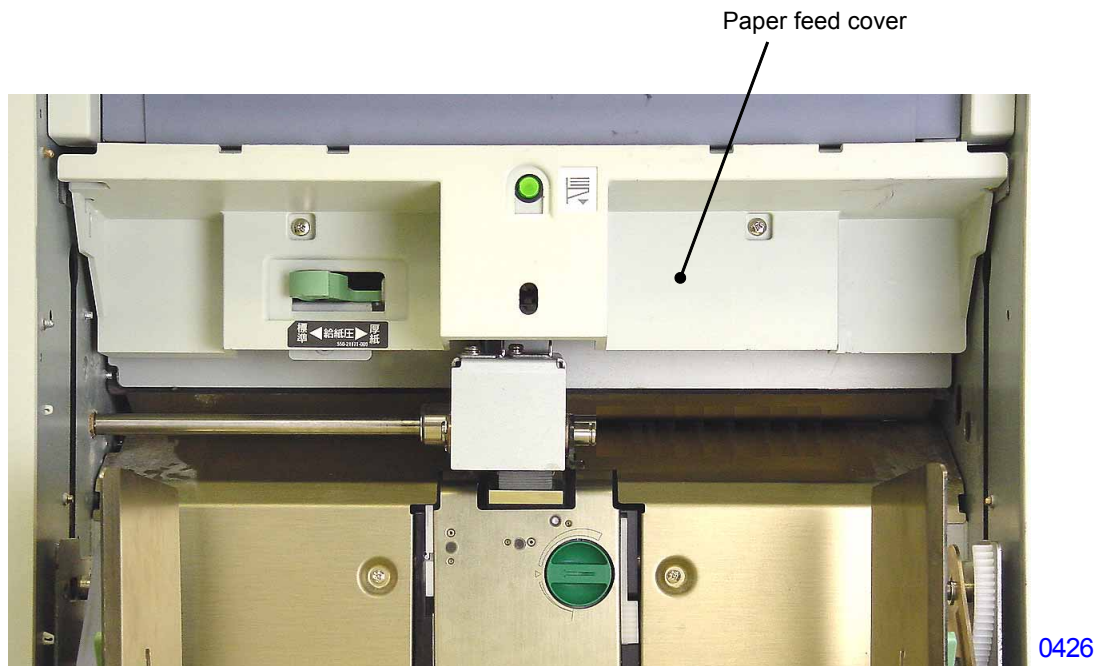
Removing the Pickup Roller

- (1) Lower the paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the snap ring from the pickup shaft.
- (3) Slide out the pickup roller from the pickup shaft.



4. Removing the Paper Feed Roller Assembly

- (1) Lower the paper feed tray all the way down, and switch OFF the machine power.
- (2) Remove the paper feed cover by removing screws (M4x8: 2pcs).
- (3) Remove a cap-screw (M4x8: 1pc) and detach the paper feed roller assembly.



5. Removing the Paper Feed Tray Button and Paper Feed Tray Upper Safety Switch

- (1) Lower the paper feed tray all the way down and turn OFF the machine power.
- (2) Remove the following components.
 - Paper feed cover
 - Paper feed roller assembly
- (3) Unplug two connectors.
- (4) Detach the paper feed tray upper safety switch spring.
- (5) Remove screws (M3x6: 3pcs), unplug the wire harness connector from the paper sensor, and remove the first paper feed stay assembly.

Removing the paper feed tray button

- (6) Unplug the connector and detach the button after unhooking the hooks (two locations).

Removing the paper feed tray upper safety switch

- (6) Unplug the connector, remove screws (M3x14: 2pcs), and detach the safety switch.

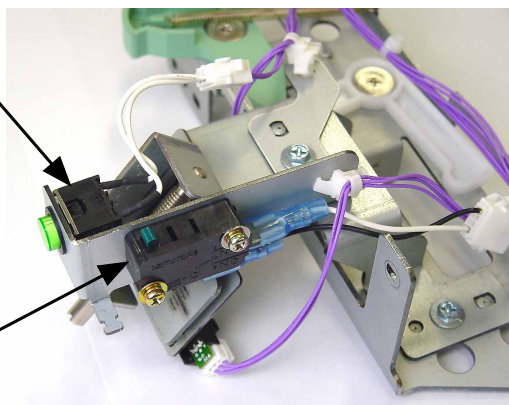


Paper feed tray upper safety switch spring

0428

Paper feed tray button

Paper feed tray upper safety switch



0429

< First paper feed stay assembly >

6. Removing Paper Feed Tray Upper Limit Sensor and Paper Feed Pressure Sensor

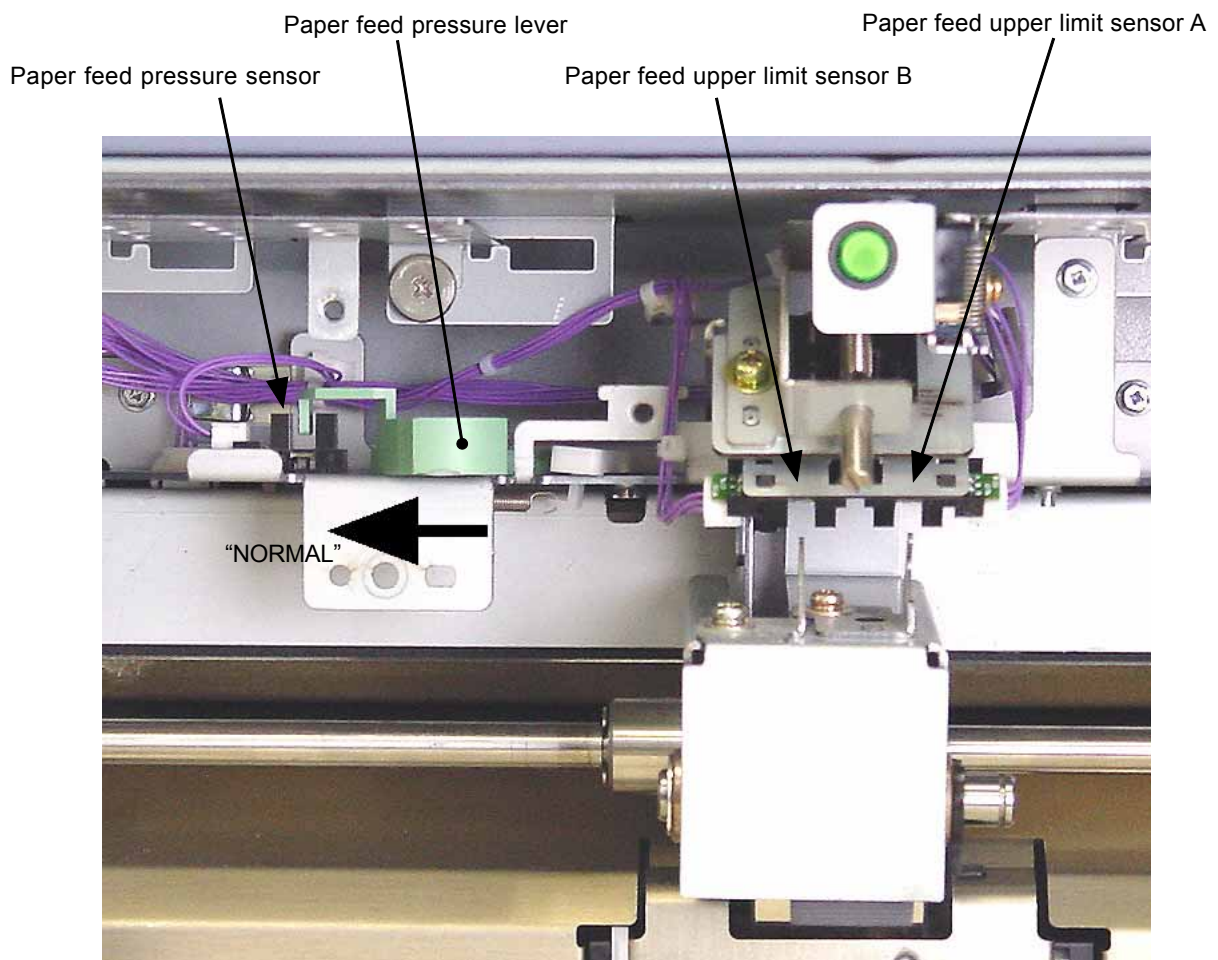
- (1) Lower the paper feed tray fully and switch off the power.
- (2) Remove the paper feed cover.

Removing the paper feed upper limit sensor

- (3) Unplug the connector and remove each sensor.

Removing the paper feed pressure sensor

- (3) Set the paper feed pressure lever to "NORMAL".
- (4) Unplug the connector and detach the paper feed pressure sensor.



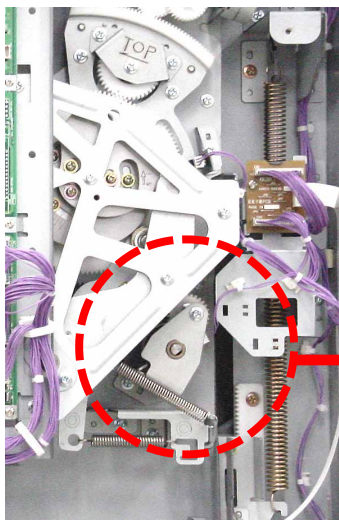
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7. Removing the Paper Feed Clutch

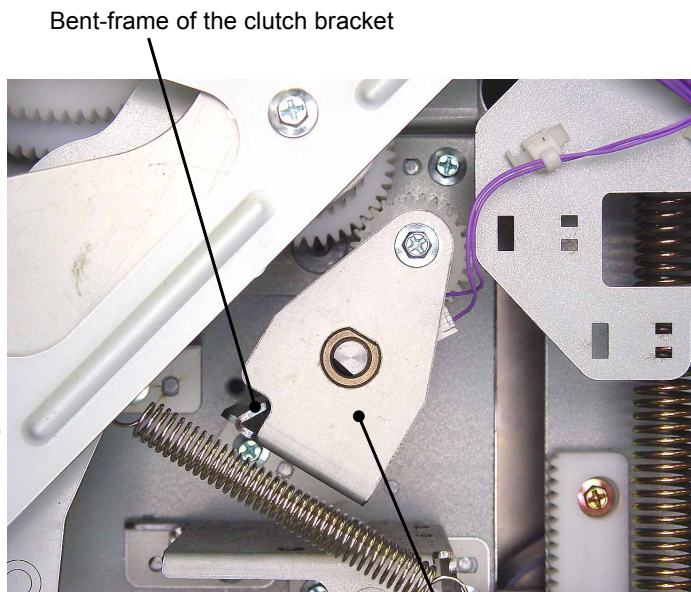
- (1) Switch off the power and remove the rear cover.
- (2) Remove screws (M4x8: 2pcs), and detach the pickup unit clutch bracket and the bearing metal.
- (3) Unplug the connector and detach the paper feed clutch.

<< Precautions in Assembly >>

- Insert the tip of the clutch into the recess made on the pickup shaft.
- Hook the paper feed clutch lock onto the bent frame of the clutch bracket.



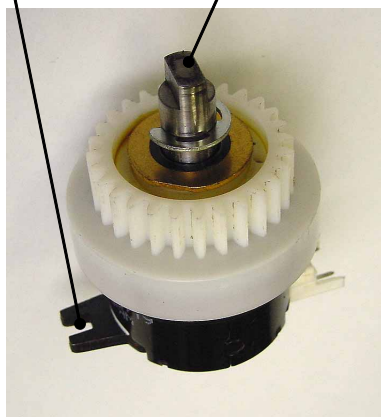
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0432

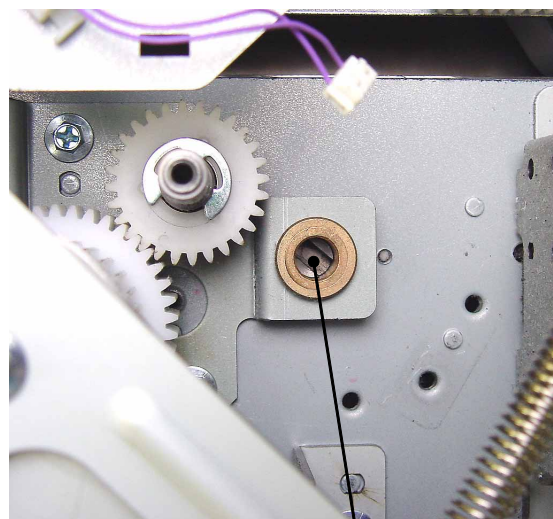
Paper feed clutch lock

Tip of the paper feed clutch



0433

<< Paper feed clutch >>



0434

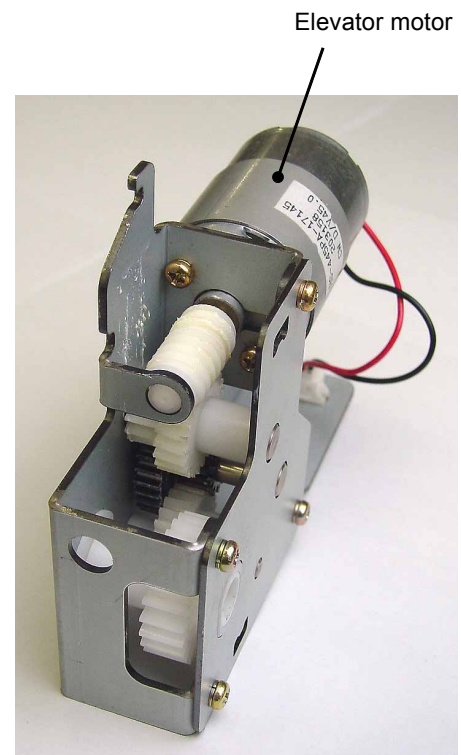
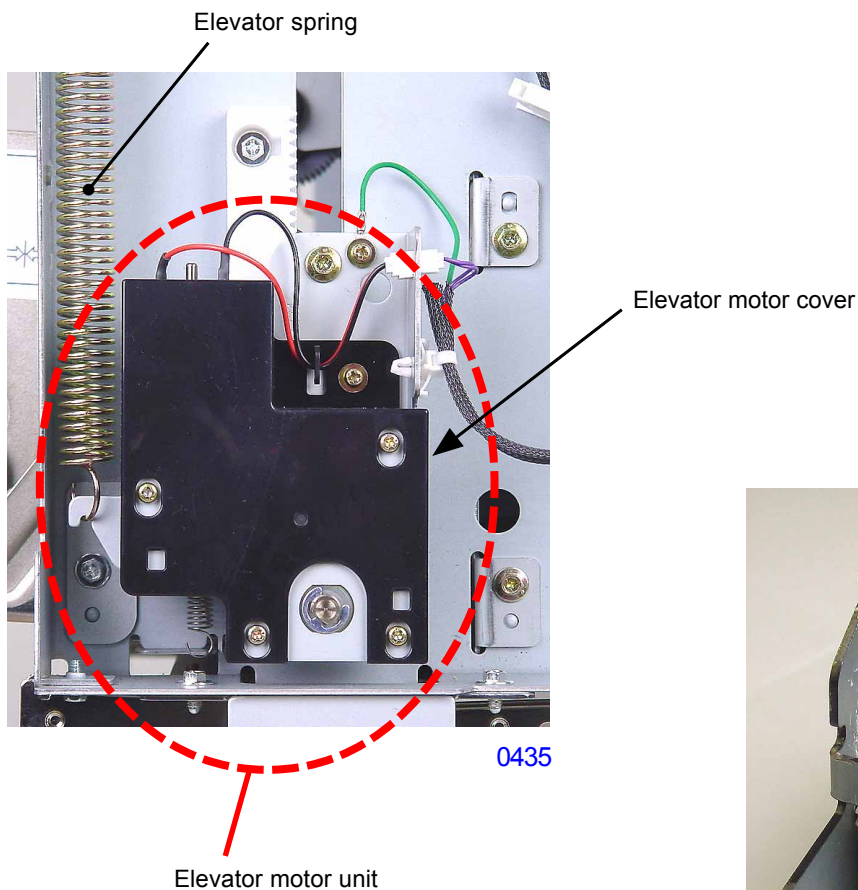
Recess made on the pickup shaft

8. Removing the Elevator Motor

- (1) Lower the paper feed tray all the way down and turn OFF the machine power.
- (2) Remove the front cover.
- (3) Of the elevator springs on each side of the machine, front and back, detach the one in the front which hooks on the elevator motor unit.
- (4) Unplug the connector, remove E-ring, remove a screw (M4x8:1pc) and detach the elevator motor unit.

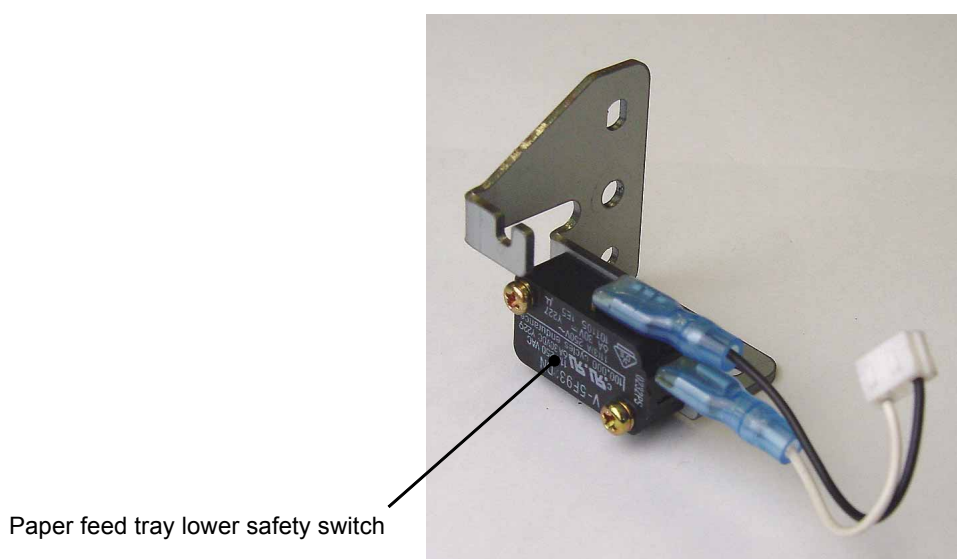
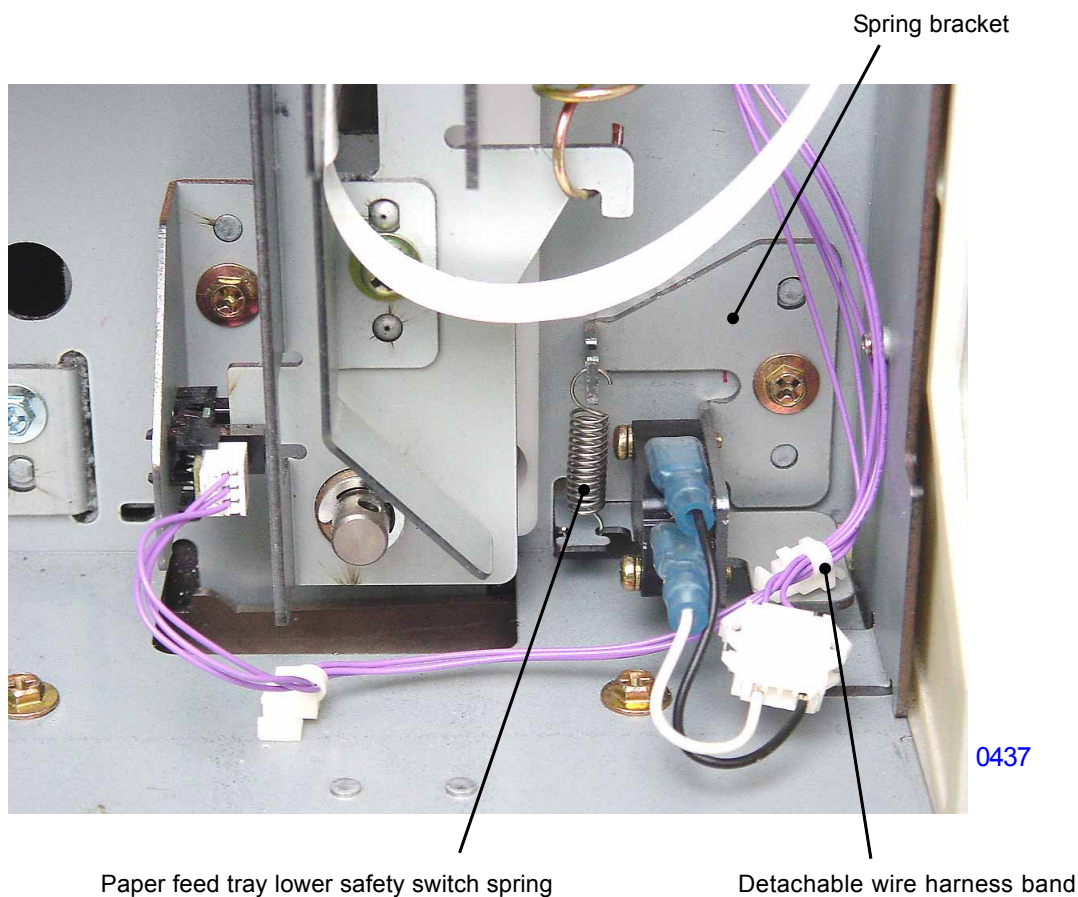
CAUTION: To prevent the paper feed tray from elevating up suddenly by the pull of the remaining spring, hold onto the paper feed tray when removing the elevator motor unit from the machine.

- (5) Remove a screw (M3x6: 1pc) and detach the elevator motor cover from the motor unit.
- (6) Unplug the connector, remove screws (M3x5: 2pcs), and detach the elevator motor from the unit.



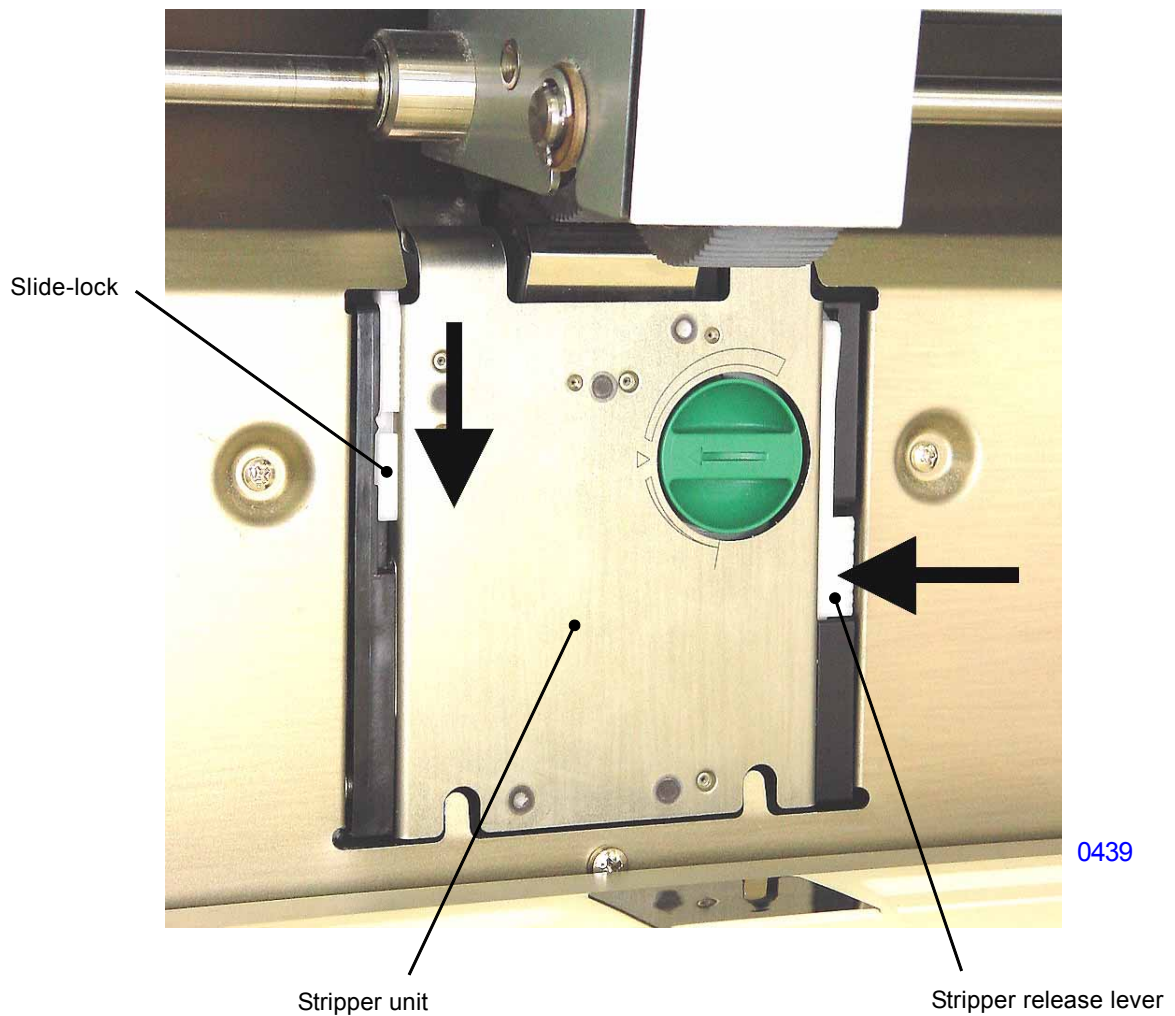
9. Removing the Paper Feed Tray Lower Safety Switch

- (1) Switch off the machine power and remove the rear cover.
- (2) Detach the paper feed tray lower safety switch spring.
- (3) Unplug the connector and detach the detachable wire harness band.
- (4) Remove a screw (M4x8: 1pc) and remove the switch together with the spring bracket.



10. Removing the Stripper Unit

- (1) Lower the paper feed tray all the way down and turn OFF the machine power.
- (2) Lower the slide-lock to release the lock on the stripper unit.
- (3) Push the stripper release lever and detach the stripper unit from the machine.

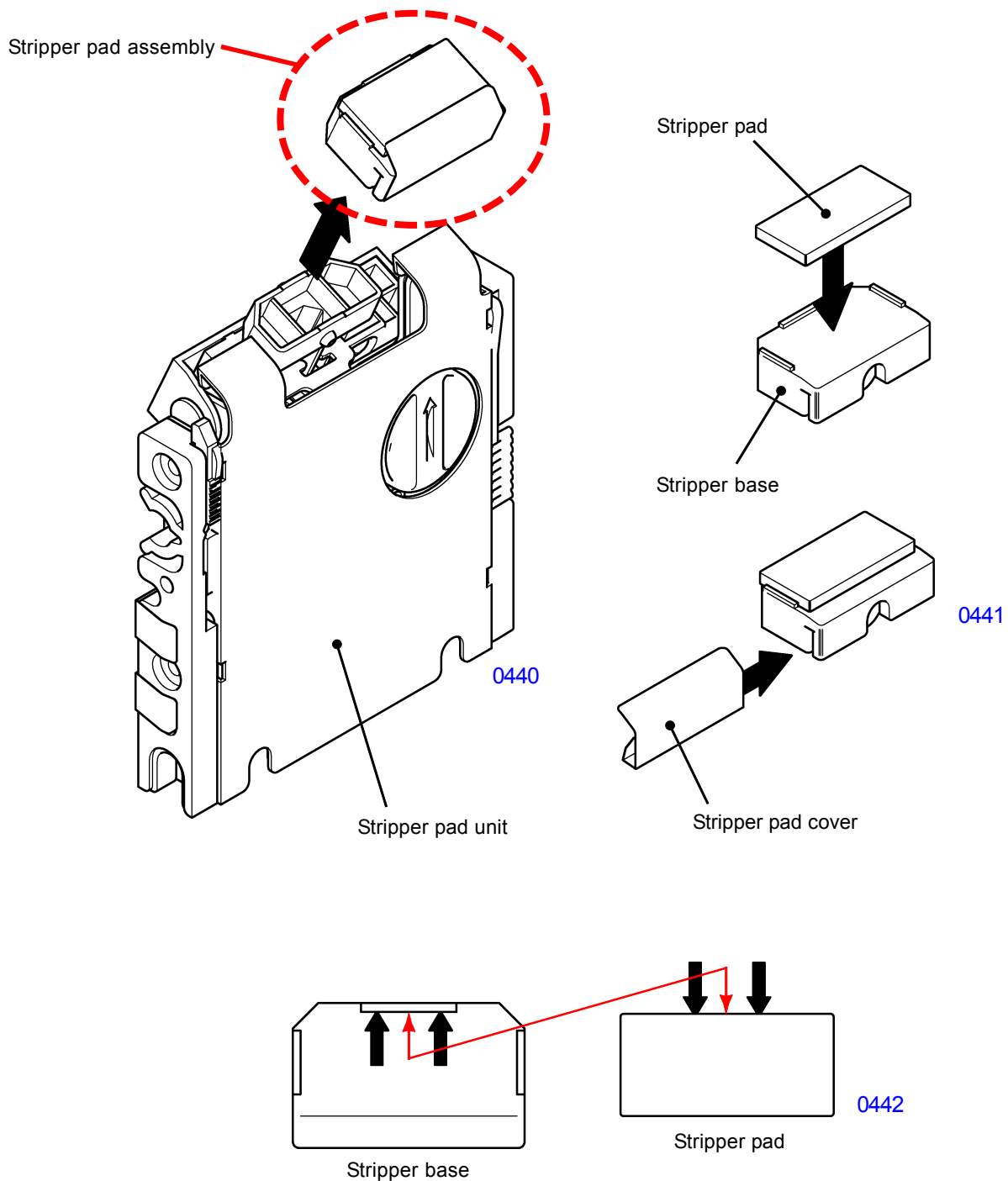


11. Removing the Stripper Pad Assembly

- (1) Lower the paper feed tray all the way down and turn OFF the machine power.
- (2) Remove the stripper unit.
- (3) Lift up the stripper pad assembly by hand and detach from the stripper unit.

<< Precaution in Assembly >>

- As shown on the sketch on the bottom, the arrow marked area on the stripper pad should meet firmly against the arrow marked area on the stripper base and press the stripper pad strongly onto the stripper base to allow the adhesive tape to stick firmly.



Adjustment

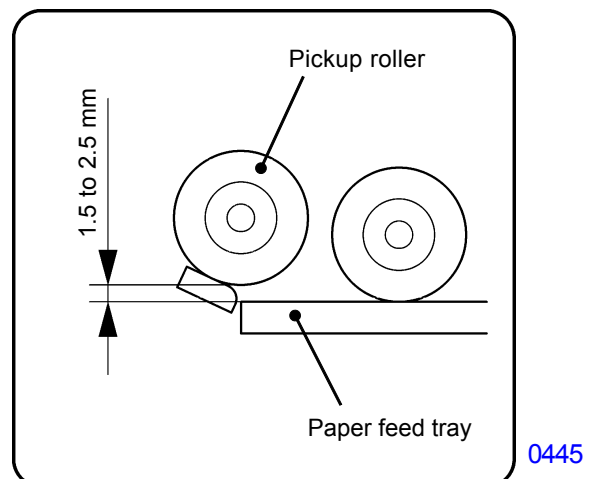
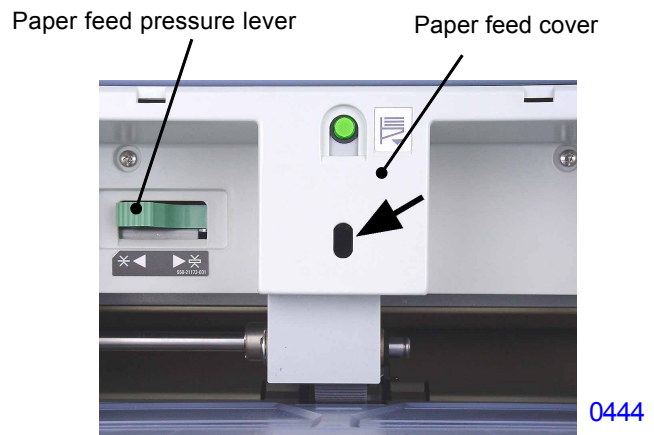
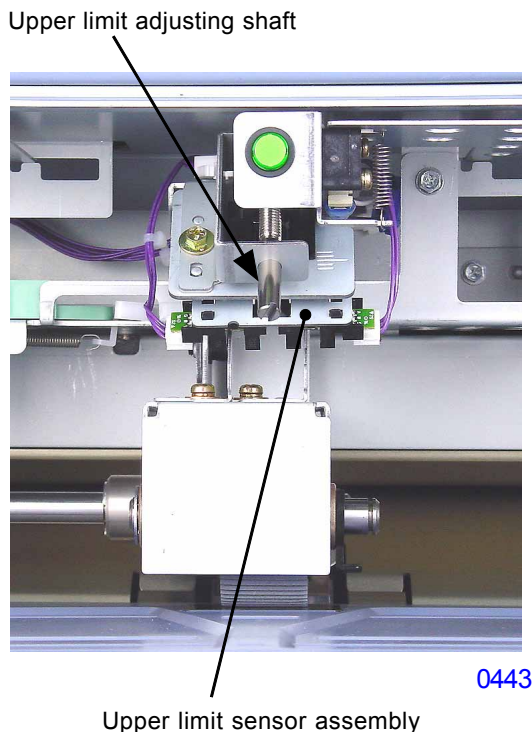
1. Upper Limit Sensor Position Adjustment

Adjustment

- (1) Remove papers from the paper feed tray, and slide the paper-feed pressure lever to “NORMAL”.
 - (2) Start Test Mode No. 681 (paper feed tray upper limit positioning) to raise the paper feed tray and bring it to a complete stop.
 - (3) Check that the gap between the pickup roller and the paper feed tray is between 1.5 mm to 2.5 mm.
 - (4) If the gap is out of the specified range, rotate the upper limit adjusting shaft by inserting a flat head screw drive through the paper feed cover hole. Rotating the shaft will move the position of the upper limit sensor up or down.
- * If Test mode No.740 (paper limit position selection) is selected to “CARD” or “SPECIAL”, make sure to select the test mode to “AUTO” or “NORMAL” before making the adjustment (RZ3 series).
- * Rotating the upper limit adjusting shaft in clockwise direction lowers the upper limit sensor assembly and increases the gap between the pickup roller and paper feed tray.

Symptoms

If the upper limit sensor is positioned too high, the paper feed pressure increases too much and multiple sheets feeding may occur. On the other hand, if the sensor is positioned too low, the paper feed pressure reduces too much and no paper feed may occur.



2. Stripper Unit Adjustment

Adjustment

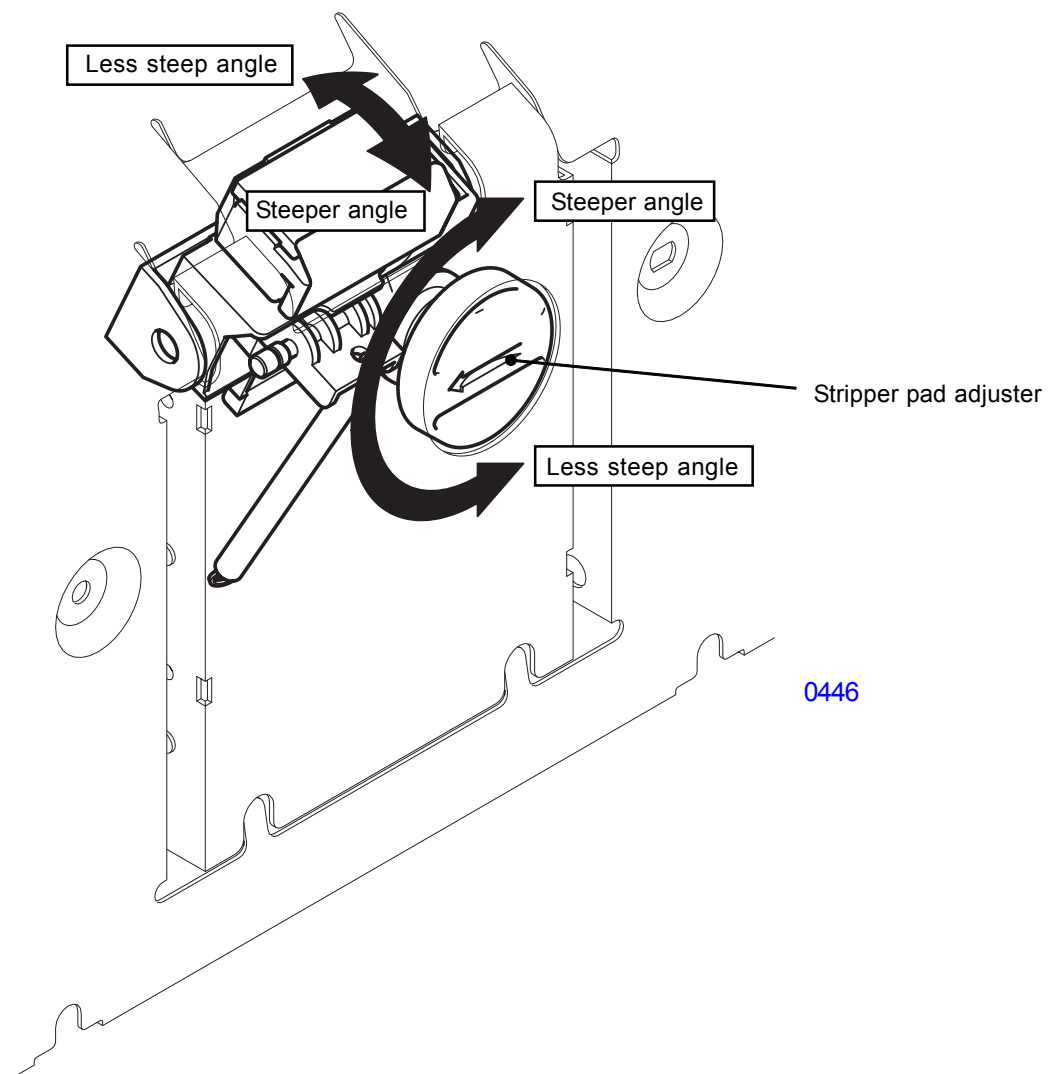
- (1) Slide the paper feed pressure adjust lever to the proper position to match the paper type before printing.
- (2) If multiple feeding or non-feeding occurs, adjust the stripper pad angle. (Make sure that the upper limit position is adjusted to the correct position before trying to solve the problem by adjusting the angle of the stripper pad.)

1) To solve [Multiple sheets feeding problem]:

Rotate the stripper pad adjuster clockwise to increase the stripper pad angle (pad angle becomes steep.)

2) To solve [No paper feed problem]:

Turn the stripper pad adjuster counterclockwise to reduce the stripper pad angle (pad angle becomes less steep.)



3. Paper-Feed Clutch ON Angle Adjustment

Checks and adjustment

- (1) Make prints to confirm whether the first paper feeding is smooth or not.
- (2) If the first paper feeding timing is not smooth, make adjustment using Test Mode No. 0741 to control the paper feeding clutch ON timing in accordance with the type of the paper.

Symptoms

If the first paper feed timing is not correct, paper jamming or inconsistent print registration may occur.

4. Paper-Feed Clutch OFF Angle Adjustment

Checks and adjustment

- (1) Make prints to confirm whether the paper is smoothly transferred onto the second paper feed area.
- (2) If printing is not performed smoothly due to too much or too little buckling at the top of the paper, make adjustment using paper feed clutch OFF angle adjustments by Test Mode No. 0742 in accordance to the type of the paper.
- (3) Repeat from step (1) to check and make readjustment if necessary.

Symptoms

If the buckle is too small or too large, the paper may not feed into the second paper feed area correctly, and paper jam may occur.

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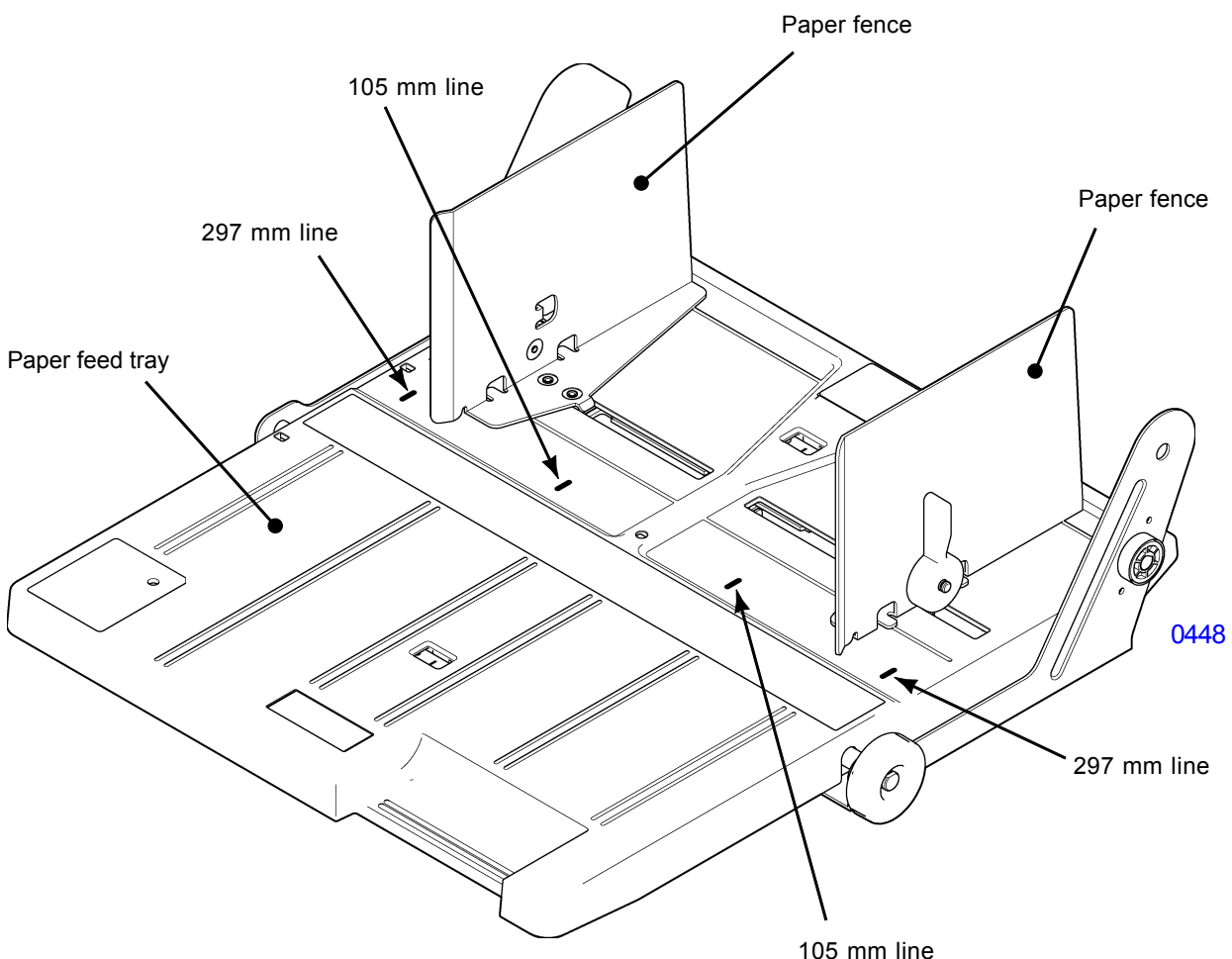
5. Paper-Width Potentiometer Adjustment

Checks and adjustment

- (1) Access into protected area test mode by activating Test Mode No. 9874.
 - (2) Set the paper fence to the 105mm line on the paper feed tray, and run Test Mode No.1102.
 - (3) Set the paper fence to the 297mm line on the paper feed tray, and run Test Mode No.1103.
 - (4) Set the paper fence to the 105mm line on the paper feed tray, and run Test Mode No.721 to confirm whether the adjustment ended correctly or not. Confirm that the display shows a value between 1020 and 1080 (1050 plus/minus 30). If not, repeat the adjustment from the beginning.
 - (5) With Test Mode still in No.721, set the fence position to 297mm, and make sure the indication shows a value between 2940 and 3000 (2970 plus/minus 30). If not, repeat the adjustment from the beginning.
- ✱ When setting the fence to the given width for above adjustments, make sure to close the fence inward to the given width. Do not set to the given width by opening the fence. The fence must be moved inward.

Symptoms

If the adjustment is incorrect, the machine judges the paper on the tray to be in a different size. This would result in either reduced master-making area, or increased master-making area, and may cause the Pressure roller to become dirty with ink.



CHAPTER 5: SECOND PAPER FEED SECTION

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ADJUSTMENT

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Mechanism

1. Second Paper Feed Mechanism

During the printing, the sector gear cam and timing cam rotate in counterclockwise direction.

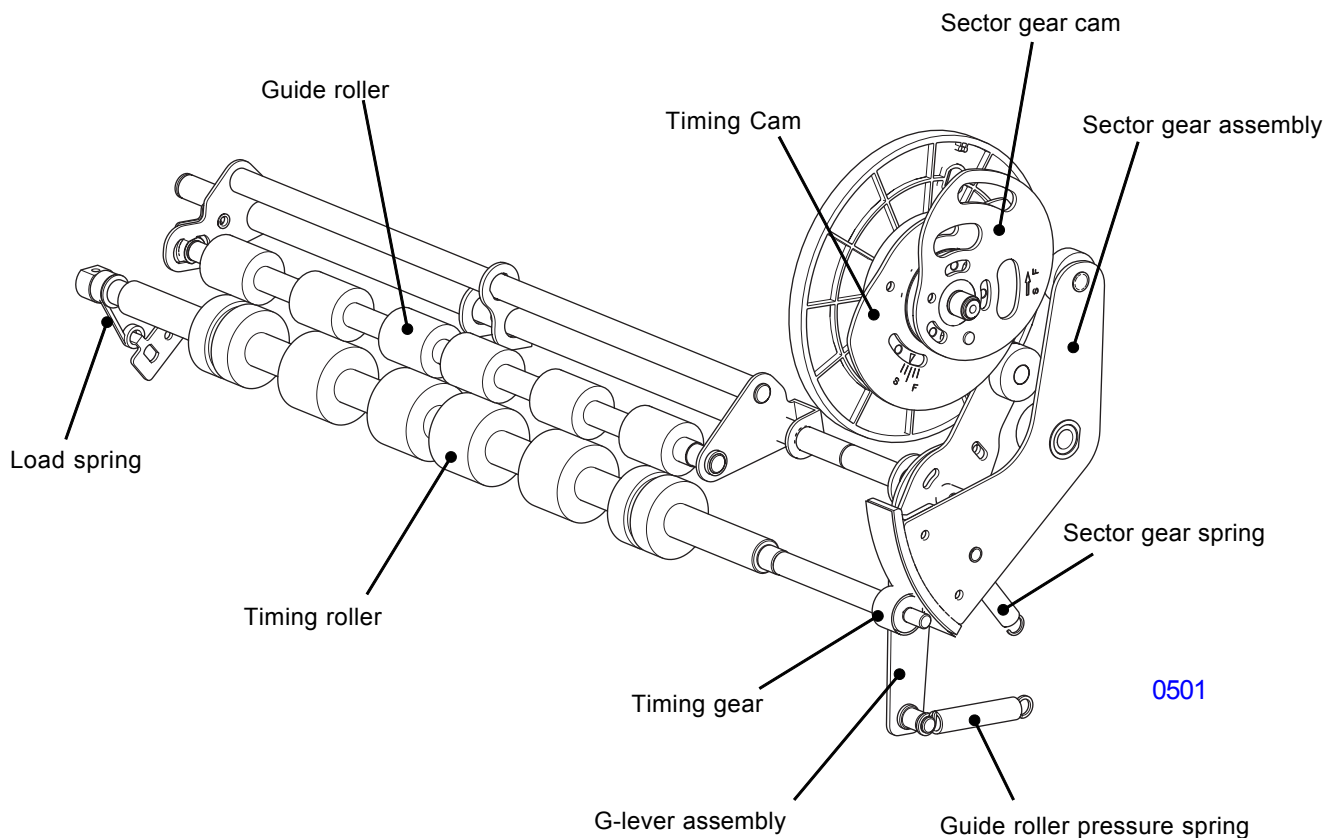
The pull of the sector gear spring pushes cam follower on the sector gear assembly against the sector gear cam. Riding on the sector gear cam, the sector gear assembly makes pendulum (swinging) action when the sector gear cam rotates. The sector gear transfers the drive to the timing gear. The timing gear has a built-in clutch to drive the timing roller only when the gear rotates in the counterclockwise direction by the clockwise swing of the sector gear. Due to the one-way clutch on the timing gear, the timing roller stays stationary when the sector gear swings in the counterclockwise direction to rotate the timing gear in the clockwise direction.

To ensure that the timing roller stops instantly when the timing gear ends its counterclockwise rotation, a load spring is mounted on the operators side of the timing roller to apply a brake on the timing roller.

The guide roller receives its rotation drive directly from the timing roller. The guide roller pressure spring pulls the guide roller down against the timing roller to make the contact. When in contact, the guide roller makes its rotation only when the timing roller rotates. When the timing cam pushes the G-lever down, the guide roller rises and releases the contact with the timing roller.

During the printing, as the first paper feed area sends the paper onto the second paper feed area, the guide roller is in contact with the timing roller and stationary. As the paper arrives, both the timing roller and guide roller rotate to pinch the paper in between and transfers the paper onto the print drum area for printing.

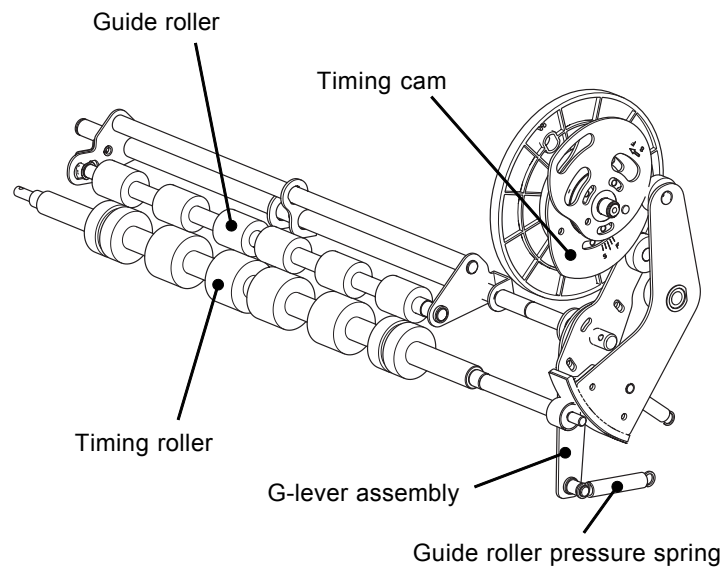
During the printing, as the rotation of the timing roller ends, the guide roller elevates up to disengage from the timing roller to let the paper go through into the printing area freely without any drag.



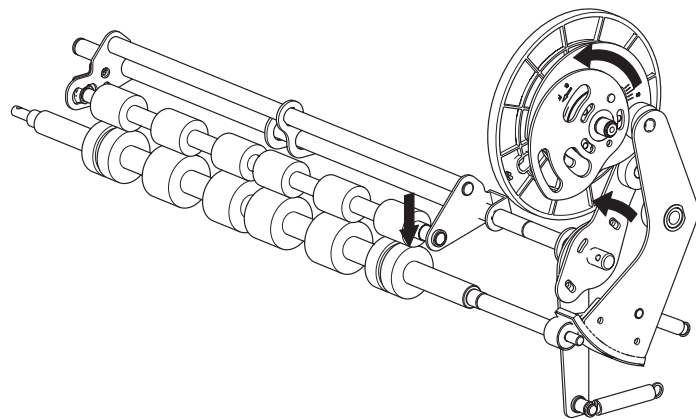
0501

At print drum Position-A

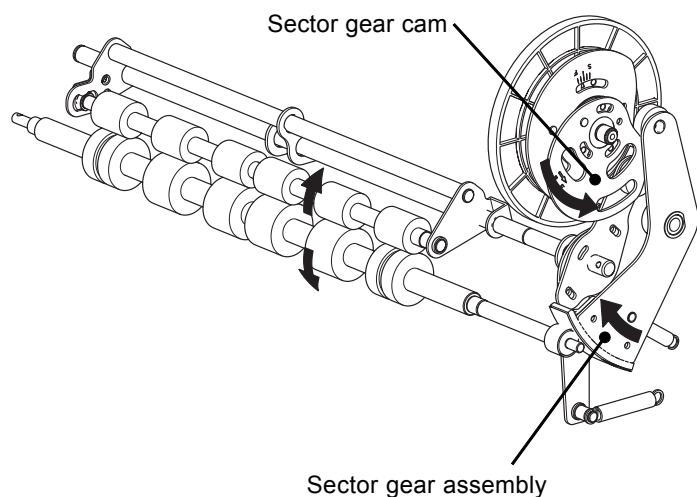
When the print drum comes to its position-A, the G-lever is pushed down by the timing cam and the guide roller is raised up. The guide roller is disengaged from the timing roller.

**First paper feed starts**

When the first paper feed starts by the rotation of the rotation of the scraper roller and pickup roller, the leading edge of the paper arrives to the second paper feed area, between the At this point, the timing cam no longer pushes the G-lever and the guide roller pressure spring pulls the guide roller down against the timing roller, reventing the paper to go any further into the machine.

**Second paper feed starts**

When the first paper feed operation ends, the rotation of the sector gear cam swings the sector gear assembly in the clockwise direction. The clockwise swing of the sector gear drives the timing roller. The timing roller drives the guide roller with the paper clamped in between, sending the paper onto the printing area.

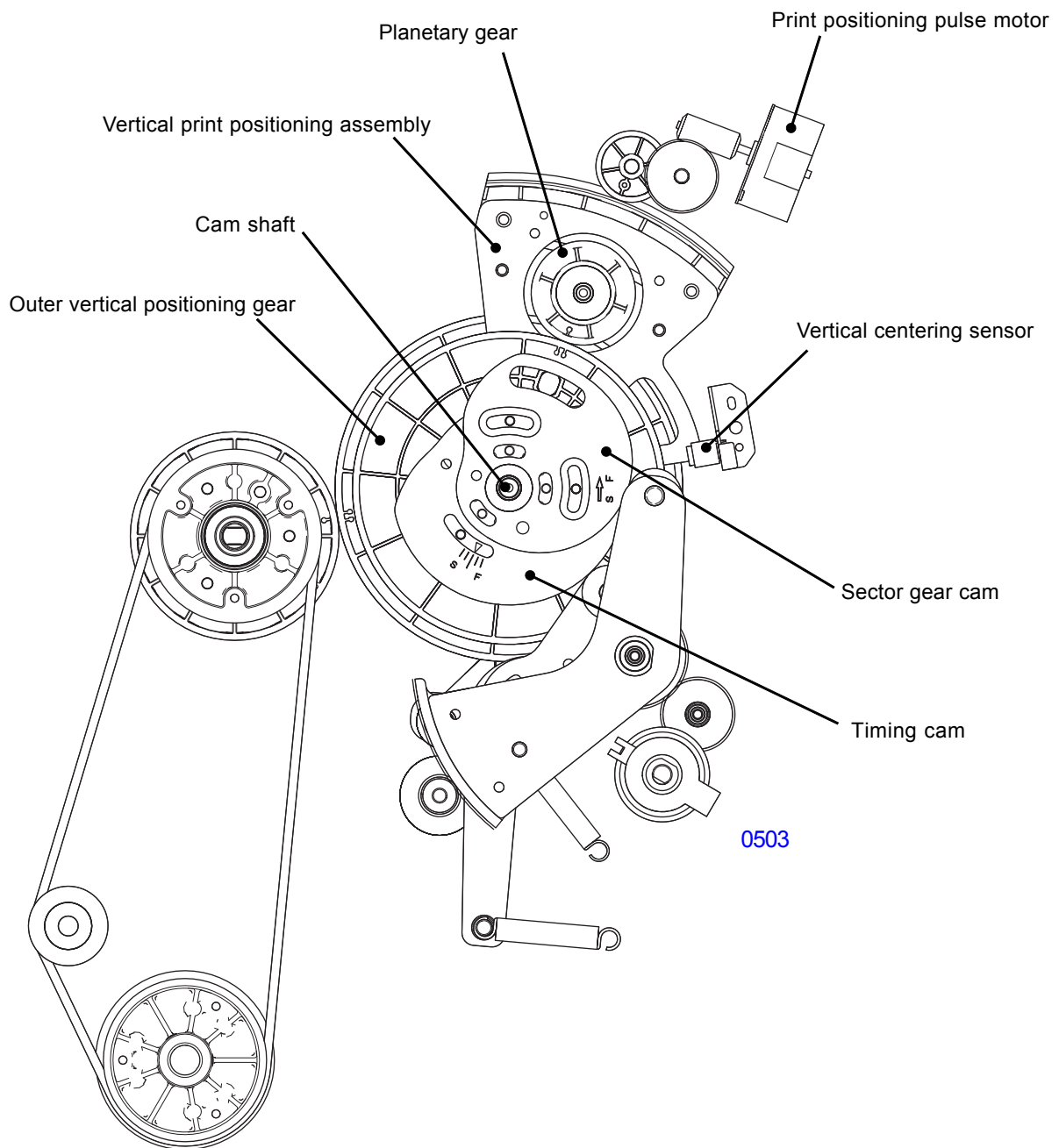


0502

2. Vertical Print Position Control

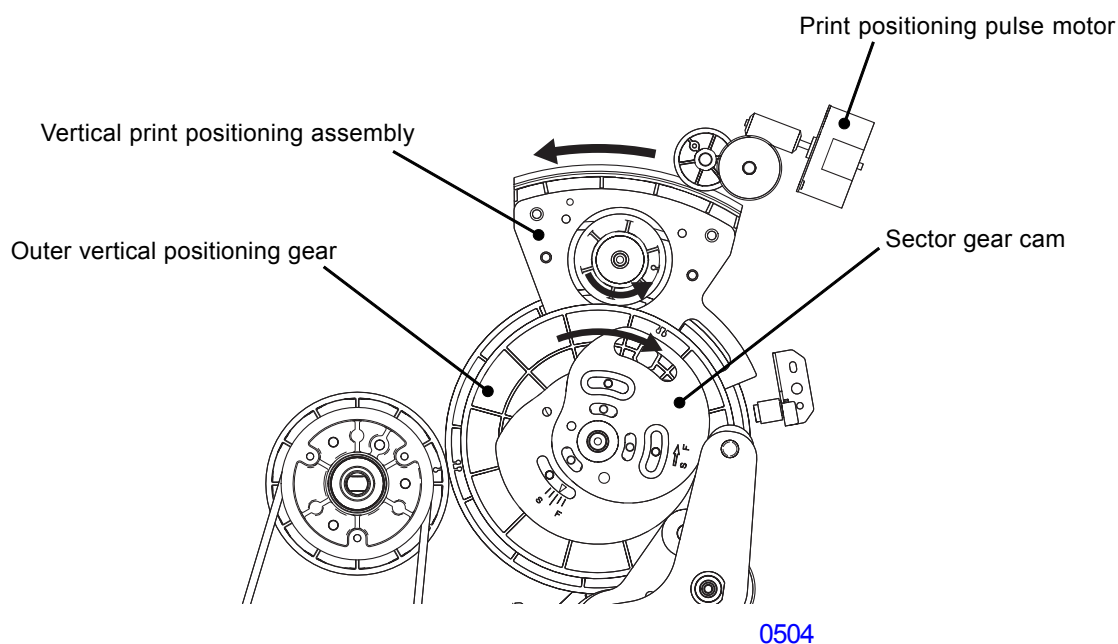
Pressing the ◀ or ▶ button of the print position key on the operation panel activates the print positioning pulse motor. The rotation of the pulse motor swings the vertical print positioning assembly either to the clockwise or counterclockwise direction with the pivot on the cam shaft. The movement of the vertical print positioning assembly rotates the planetary gear. The planetary gear then rotates the outer vertical positioning gear. The rotation of the outer vertical positioning gear offsets the position of both the timing cam and sector cam against the print drum, causing the vertical print position on the paper to change.

The vertical default (home) position is checked by the vertical centering sensor.

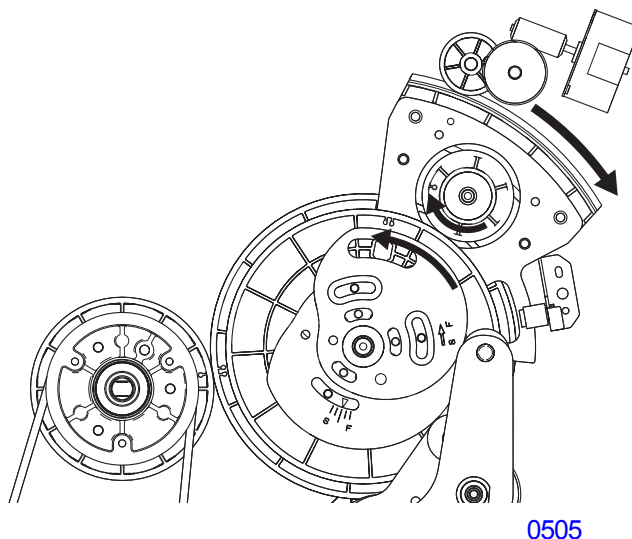


Pressing the ► key on the panel (print image up)

When the ► key is pressed, the print positioning pulse motor moves the vertical print positioning assembly in the counterclockwise direction and the outer vertical positioning gear in the clockwise direction. The sector gear cam, which is screwed onto the outer vertical positioning gear, also changes its position in clockwise direction together with the outer vertical positioning gear. Noting that the outer vertical positioning gear and sector gear cam rotates in the counterclockwise direction during the printing, the sector gear cam shifted clockwise from the default position delays the timing of the timing roller to start its rotation. The timing of the paper feeding into the printing area delays and the print position on the paper goes up.

**Pressing the ◀ key on the panel (print image down)**

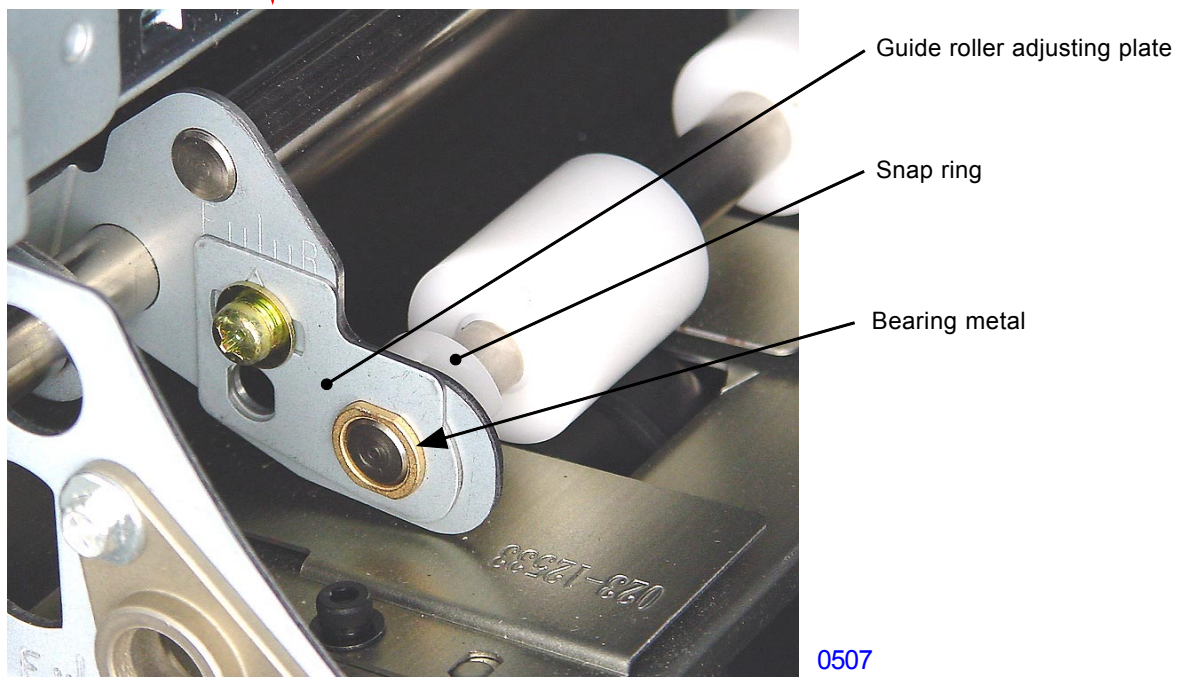
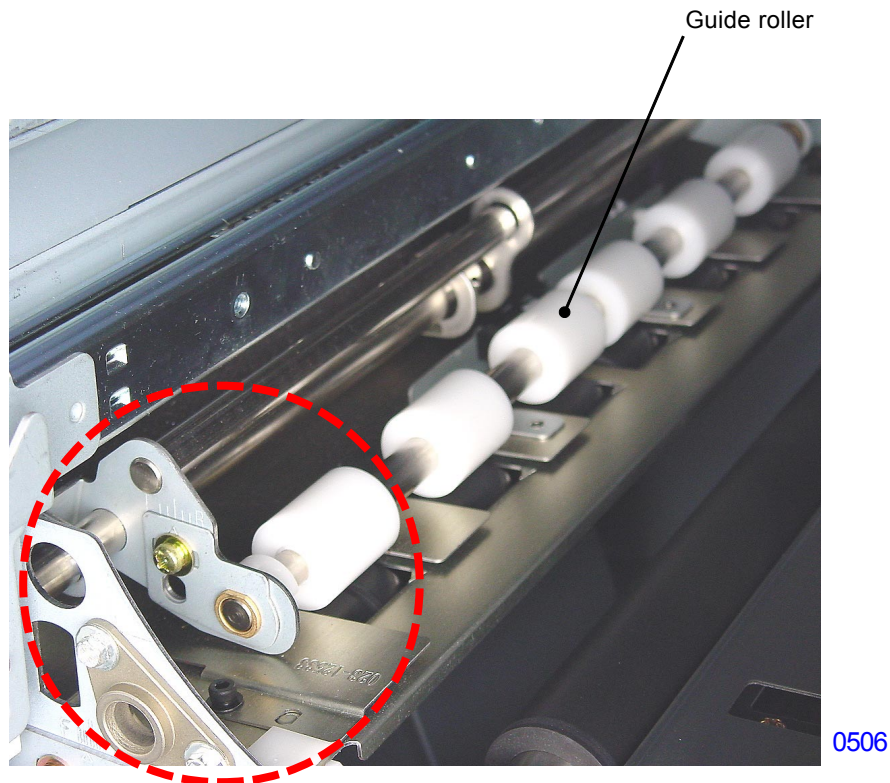
When the ◀ key is pressed, the print positioning pulse motor moves the vertical print positioning assembly in the clockwise direction and the outer vertical positioning gear in the counterclockwise direction. The sector gear cam, which is screwed onto the outer vertical positioning gear, also changes its position in counterclockwise direction together with the outer vertical positioning gear. Noting that the outer vertical positioning gear and sector gear cam rotates in the counterclockwise direction during the printing, the sector gear cam shifted counterclockwise from the default position quickens the timing of the timing roller to start its rotation. The timing of the paper feeding into the printing area starts early and the print position on the paper goes down.



Disassembly

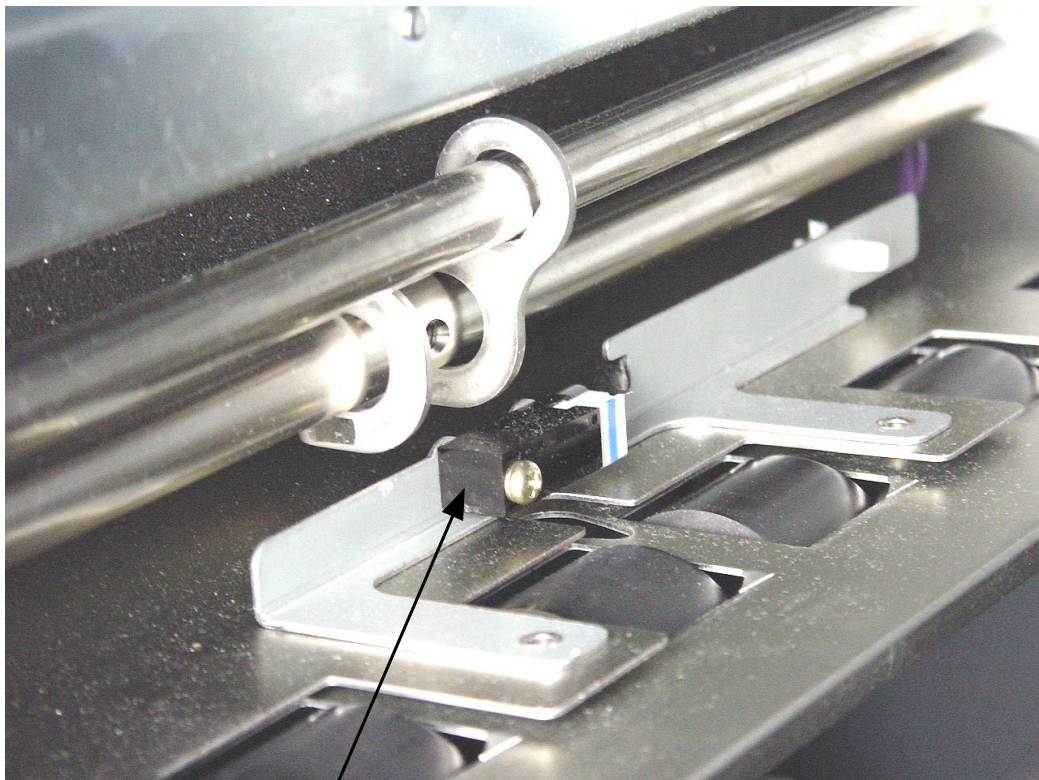
1. Removing the Guide Roller

- (1) Pull out the print drum and switch off the machine power.
- (2) From the opening on the machine for the print drum, remove the snap ring. Then remove the bearing metal from the guide roller adjusting plate to free the guide roller out of the machine.



2. Removing the Paper Sensor

- (1) Pull out the print drum and switch off the machine power.
- (2) Remove the guide roller.
- (3) Remove a screw (M3x14: 1pc), and unplug the connector to remove the paper sensor.



0508

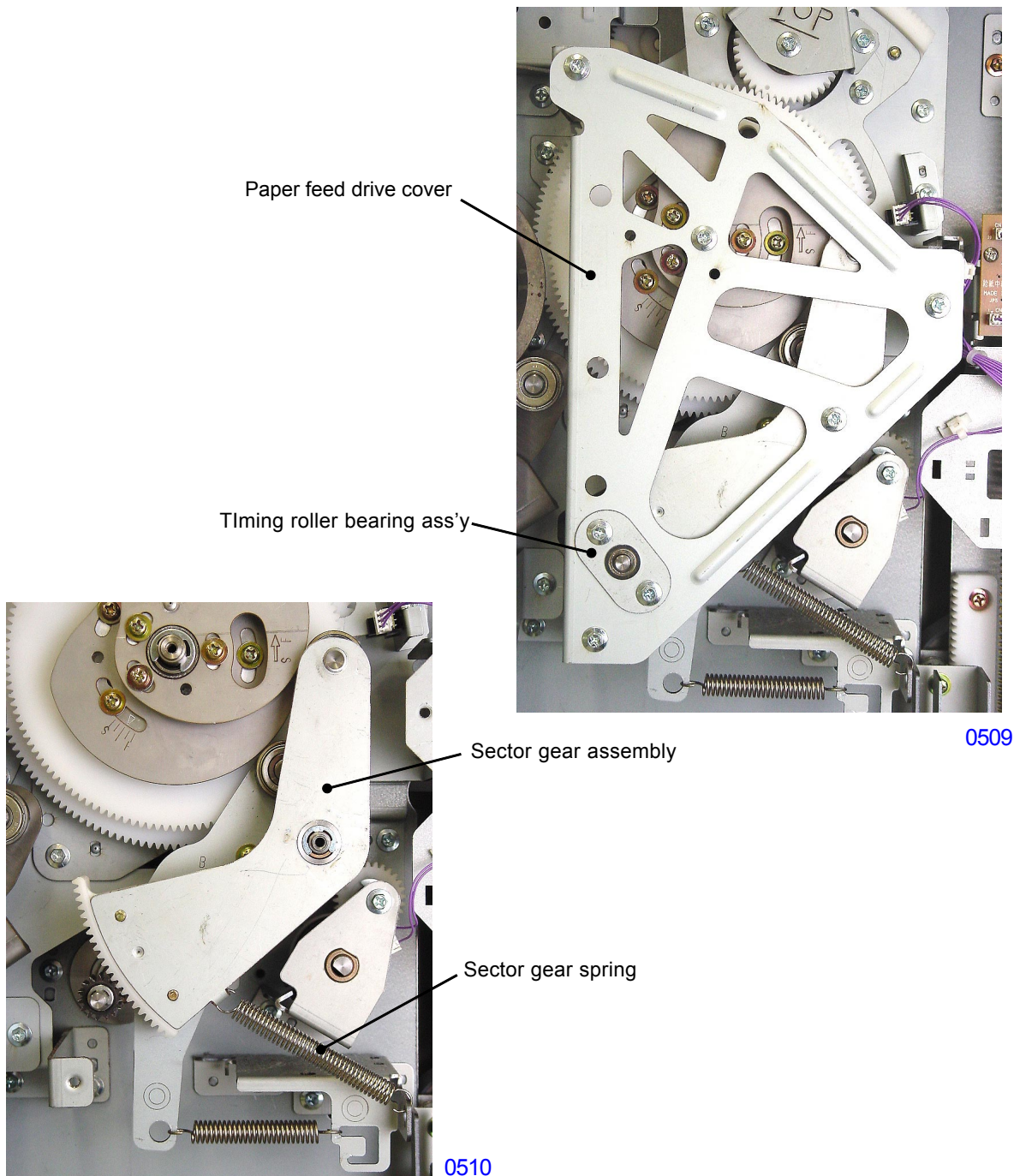
Paper sensor

3. Removing the Timing Roller

- (1) Pull out the print drum and switch off the machine power.
- (2) Remove the rear cover.

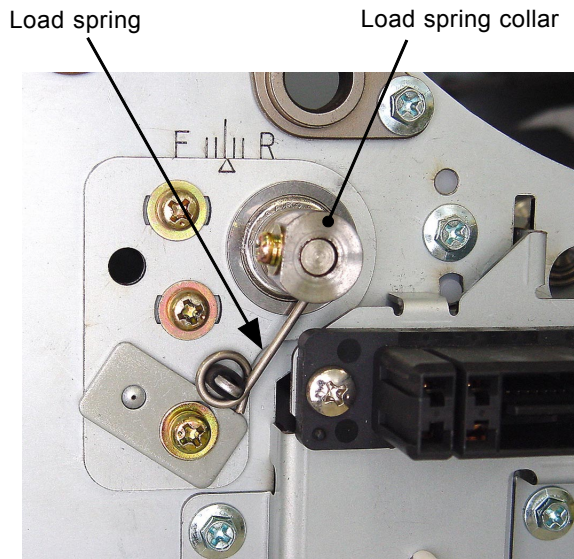
<< Working on the rear of the machine >>

- (3) Open the PCB support plate of the power supply PCB and mechanical control PCB.
- (4) Remove the timing roller bearing assembly (M4x8: 2pcs)
- (5) Remove the paper feed drive cover. (M4x8: 5pcs)
- (6) Remove the sector gear spring.
- (7) Detach the sector gear assembly by removing the E-ring.

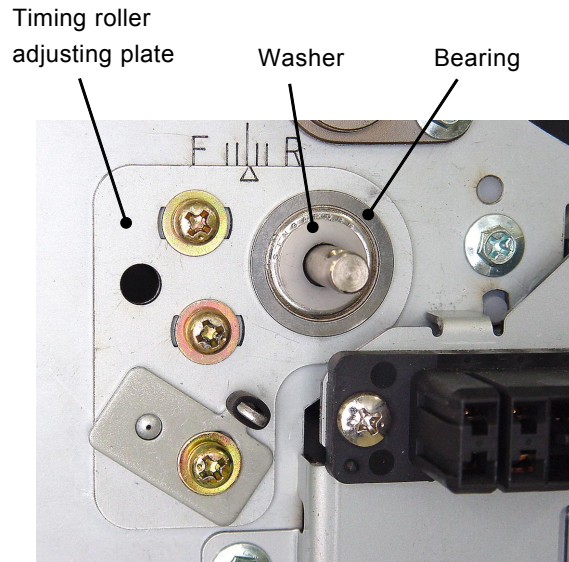


<< Working on the front of the machine >>

- (8) Remove screw (M3x8: 1pc) from the load spring collar. Then remove load spring and load spring collar.
- (9) Remove the washer, and also the bearing from the timing roller adjusting plate.



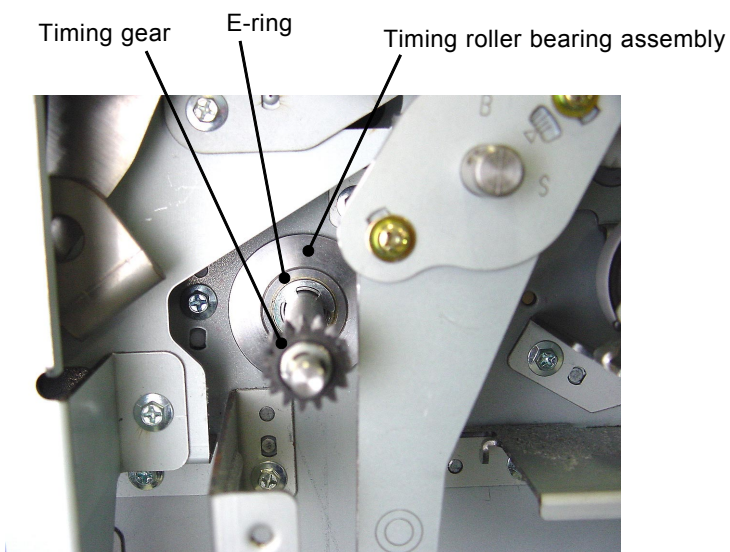
0511



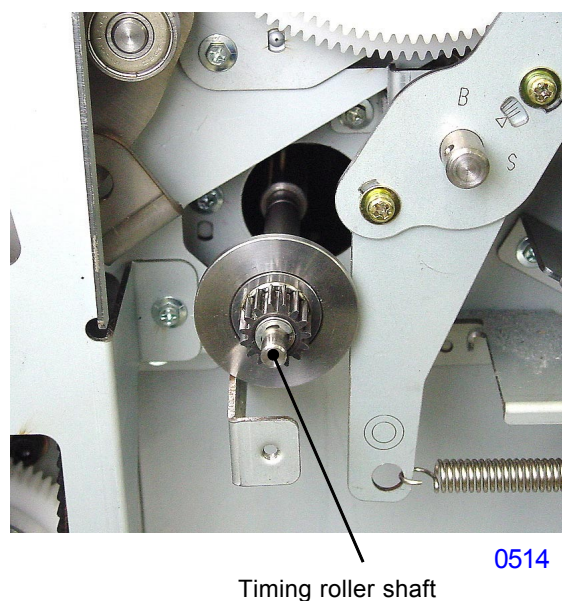
0512

<< Working on the rear of the machine >>

- (10) Remove the E-ring, and disengage the timing roller bearing assembly from the machine rear frame. Then pull the bearing assembly out until it touches the timing gear.
- (11) Grab the timing roller shaft behind the timing roller bearing assembly with one hand and front of the bearing assembly by another hand, and pull out the timing roller out from the opening on the rear frame of the machine.



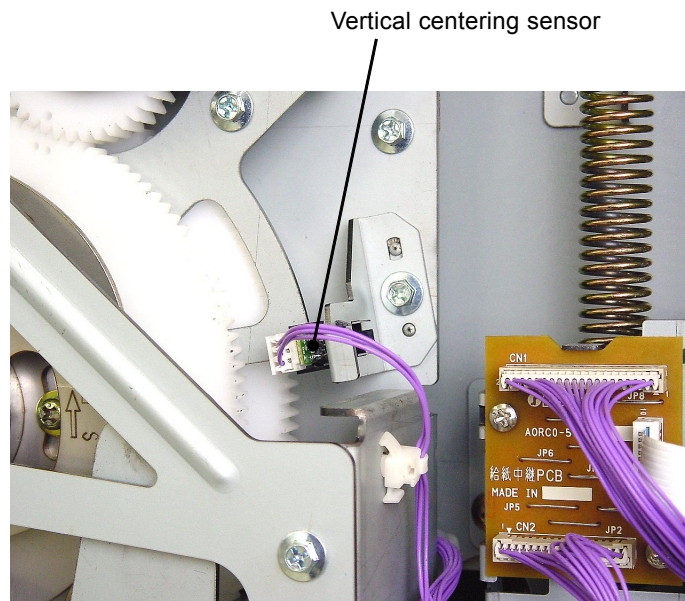
0513



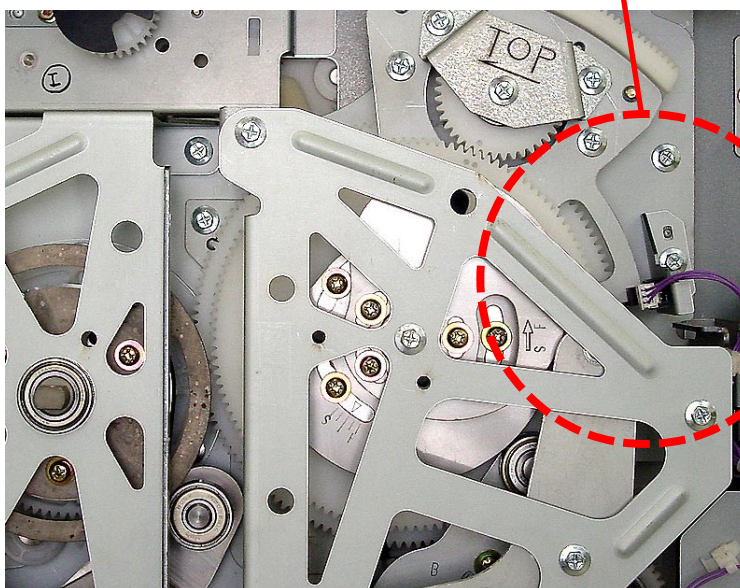
0514

4. Removing the Vertical Centering Sensor

- (1) Switch off the machine power and remove the rear cover.
- (2) Unplug the sensor connector, and by removing a screw (M4x8: 1pc), detach the vertical centering sensor off the machine together with the sensor bracket.



0515



0516

5. Removing the Print-positioning Intermediate Gear

- (1) Switch off the machine power and remove the rear cover.
- (2) Remove the E-ring and detach the print-positioning intermediate gear.

<< Precaution on Reassembly >>

Mount the print-positioning intermediate gear back on the machine after inserting the 8mm diameter Jig shaft into the position-B phase alignment hole on the paper feed area so all other gears are aligned in position-B.



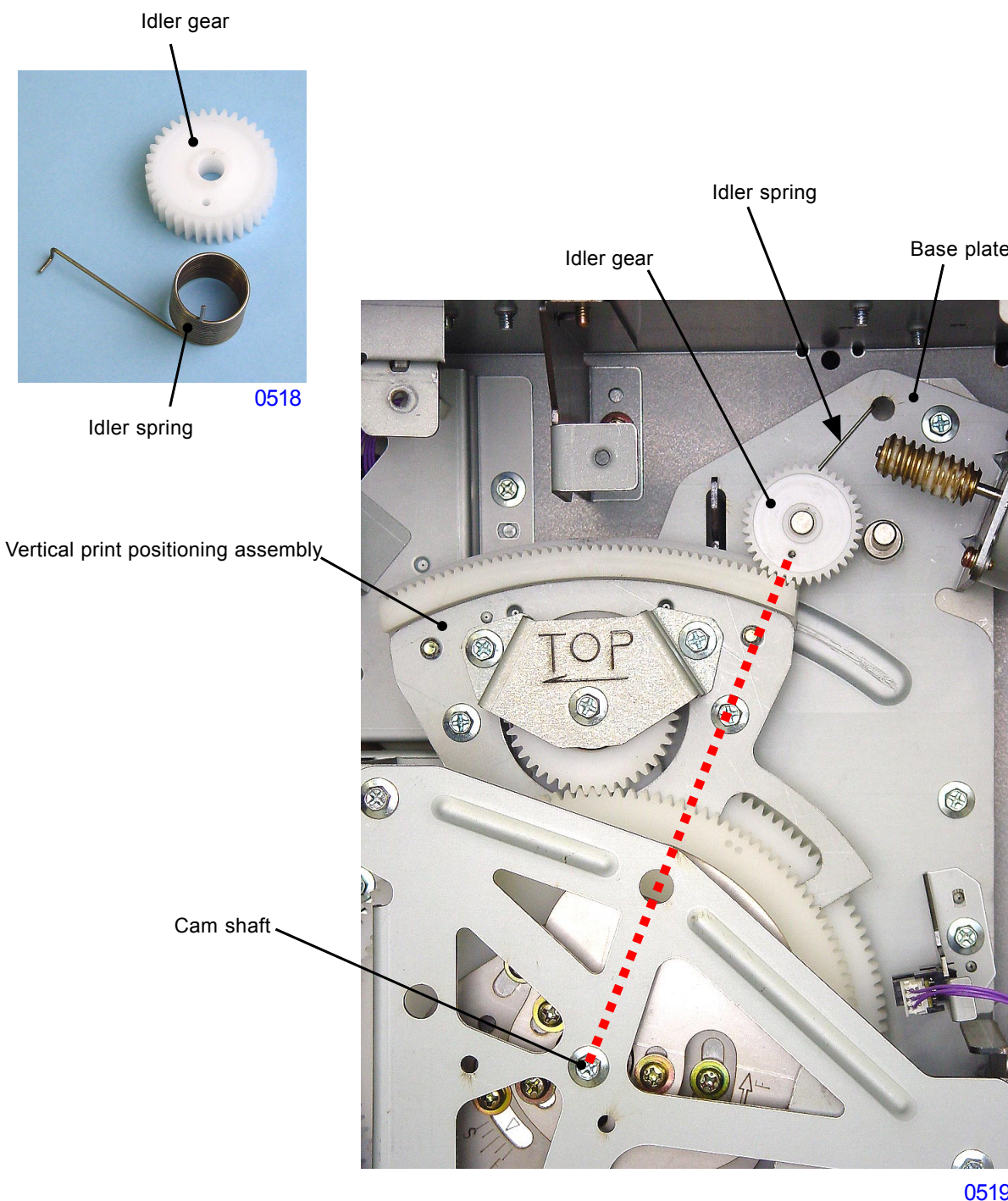
0517

6. Removing the Idler Gear

- (1) Switch off the machine power and remove the rear cover.
- (2) Remove the print-positioning intermediate gear.
- (3) Remove E-ring and remove the idler gear together with the idler spring by unhooking the spring from the base plate.

<< Precaution on Reassembly >>

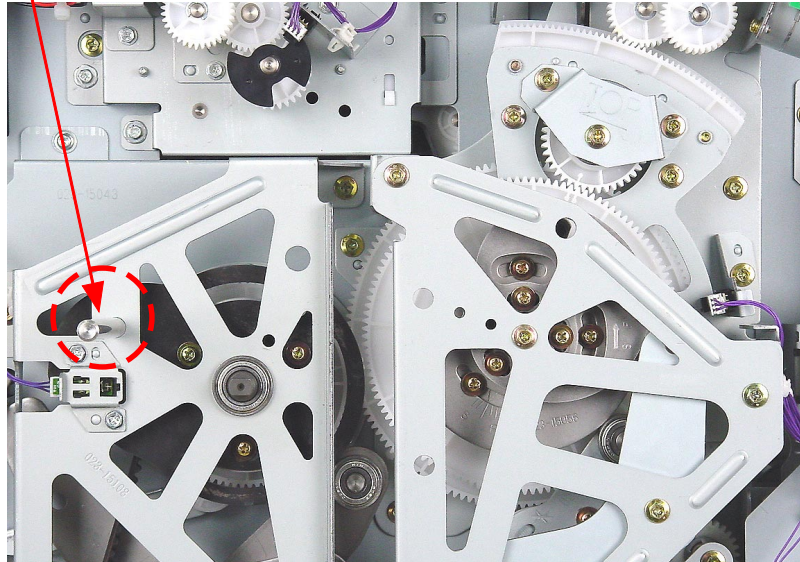
Insert the shorter end of the idler spring into the idler gear. Then swing the vertical print positioning assembly in the counterclockwise direction until it stops. Mount the idler gear with the small hole on the gear positioned down and the hole aligned in straight line with the center of the cam shaft. Finally hook the longer end of the idler spring onto the hole on the base plate.



7. Removing the Paper Feed Drive Unit

- (1) Switch off the machine power, remove the rear cover, and then swing open the PCB bracket of the power supply and mechanical control PCB.
- (2) Insert jig (8mm dia.) into the position-B phase alignment hole on the main shaft assembly of the main drive.

Jig shaft (8 mm dia.) inserted into position-B phase alignment hole on the main shaft assembly.

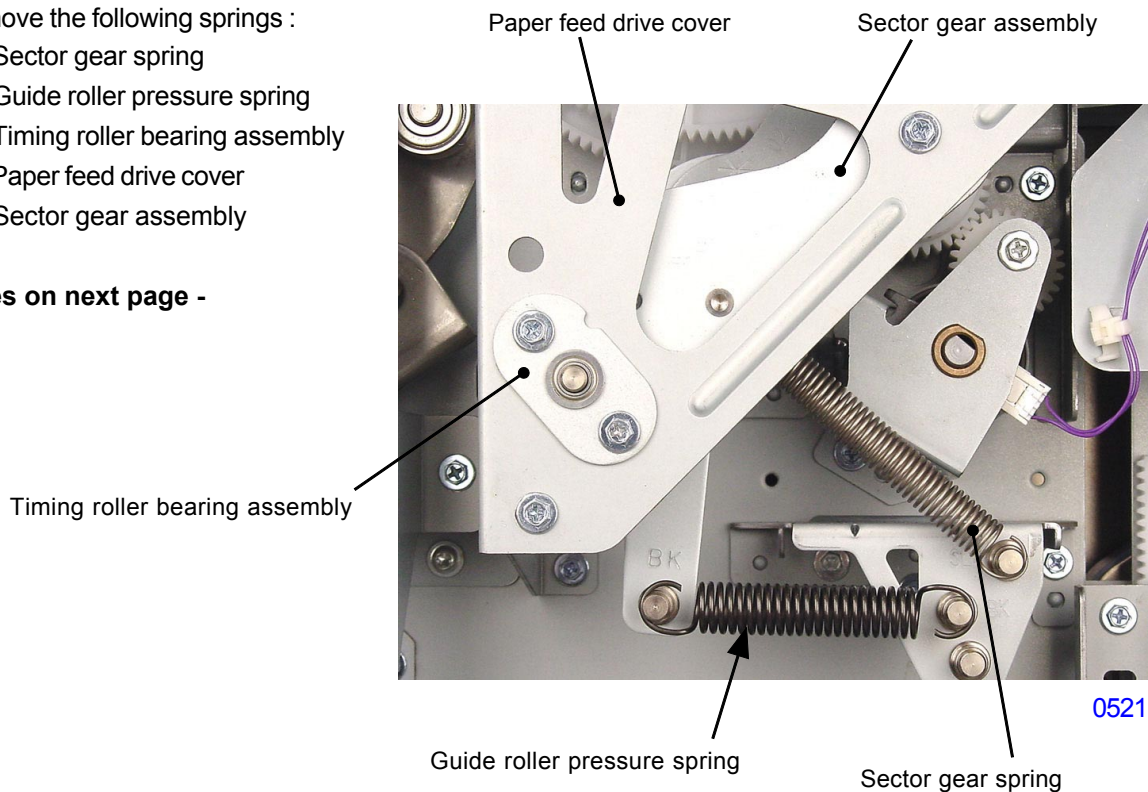


0520

- (3) Remove the following springs :

- Sector gear spring
- Guide roller pressure spring
- Timing roller bearing assembly
- Paper feed drive cover
- Sector gear assembly

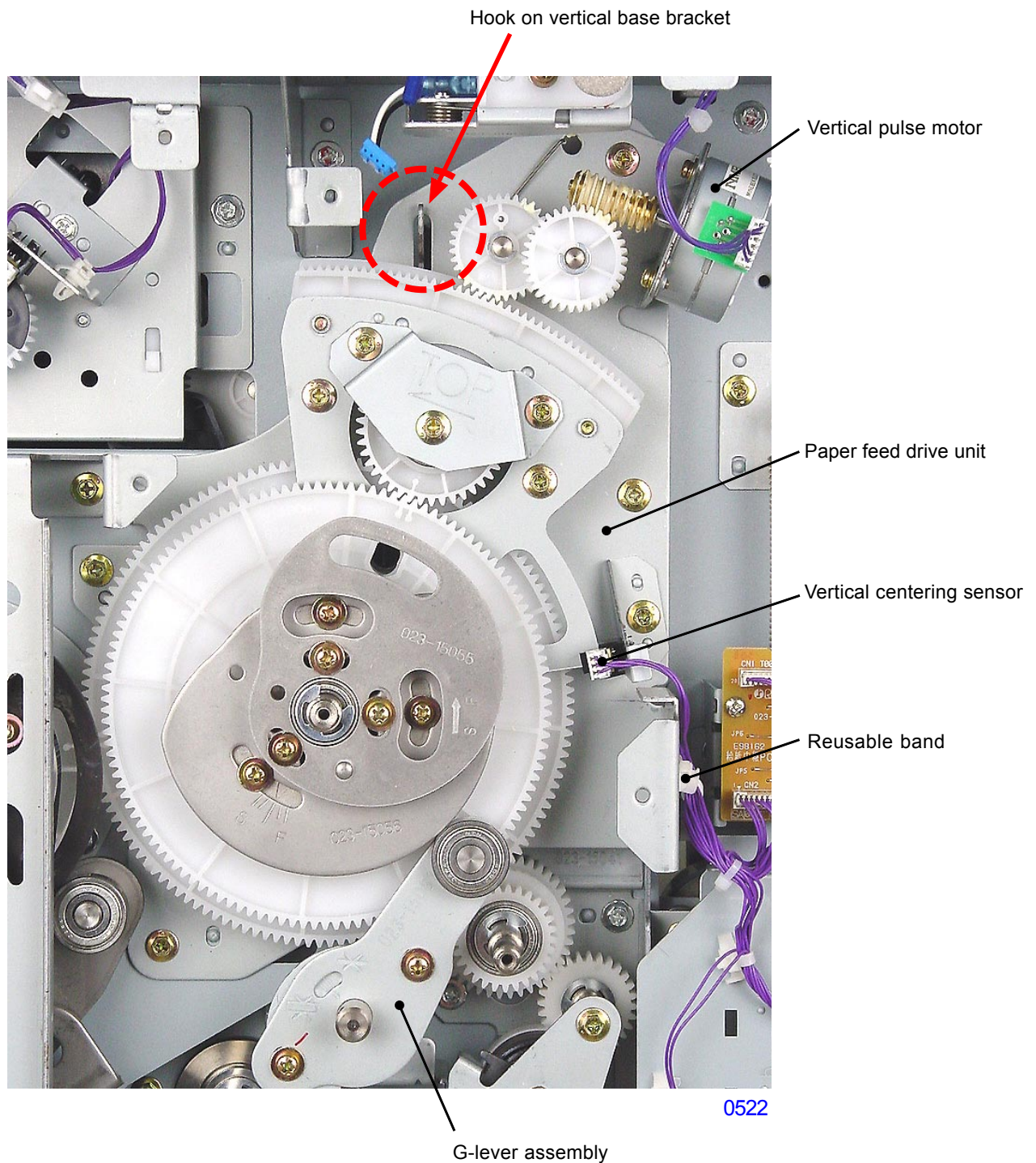
- Continues on next page -



0521

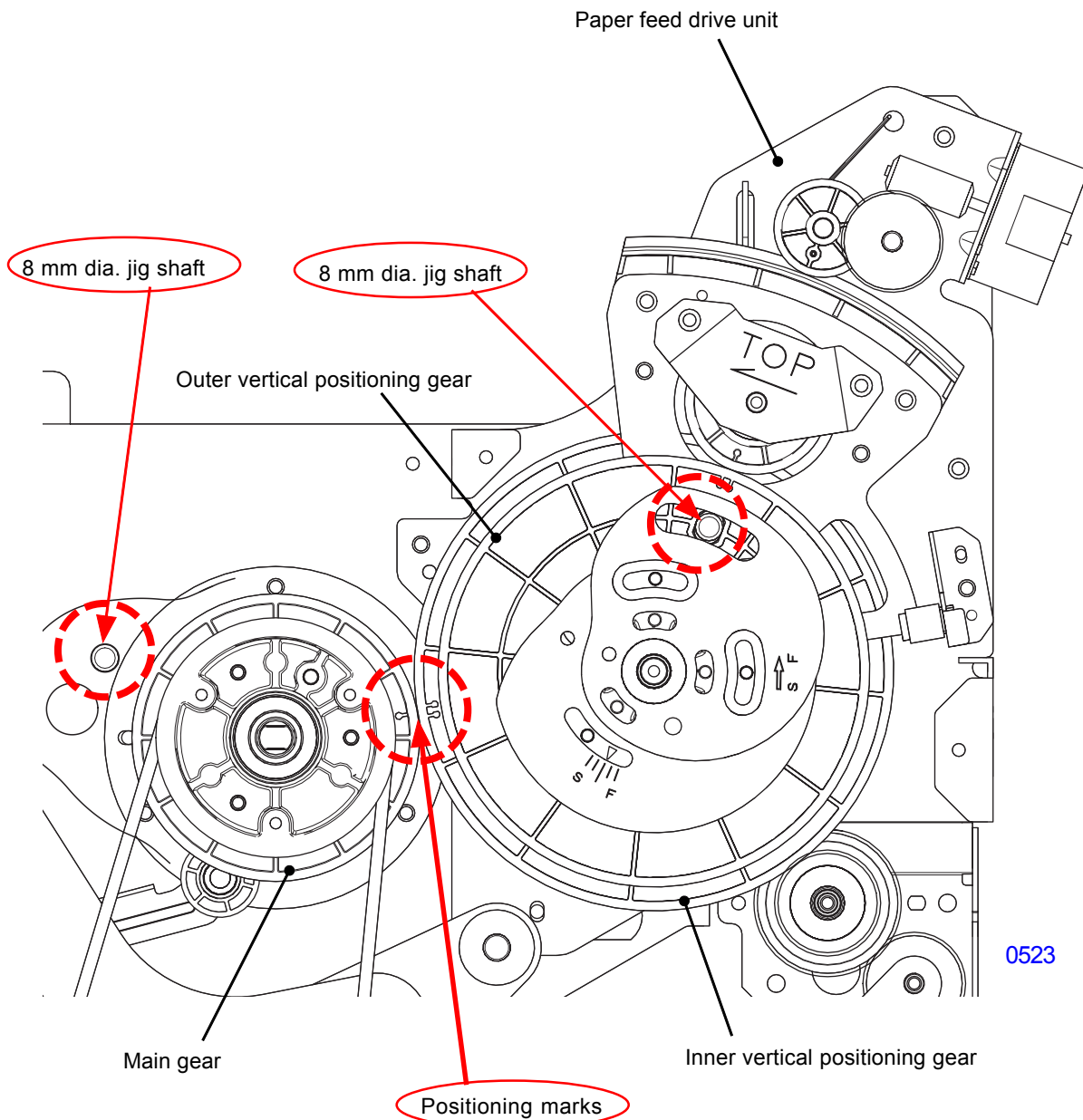
- (4) Unplug the connector of the print positioning pulse motor.
- (5) Unplug the connector of the vertical centering sensor, and unhook the reusable band.
- (6) Remove screws (M4x8: 4pcs) of the paper feed drive unit.
- (7) Unhook the paper feed drive unit from the machine while rotating the G-lever assembly to the right by hand, making a way for the unit to come out, remove the unit from the machine.

- Precaution on assembly continues on next page -



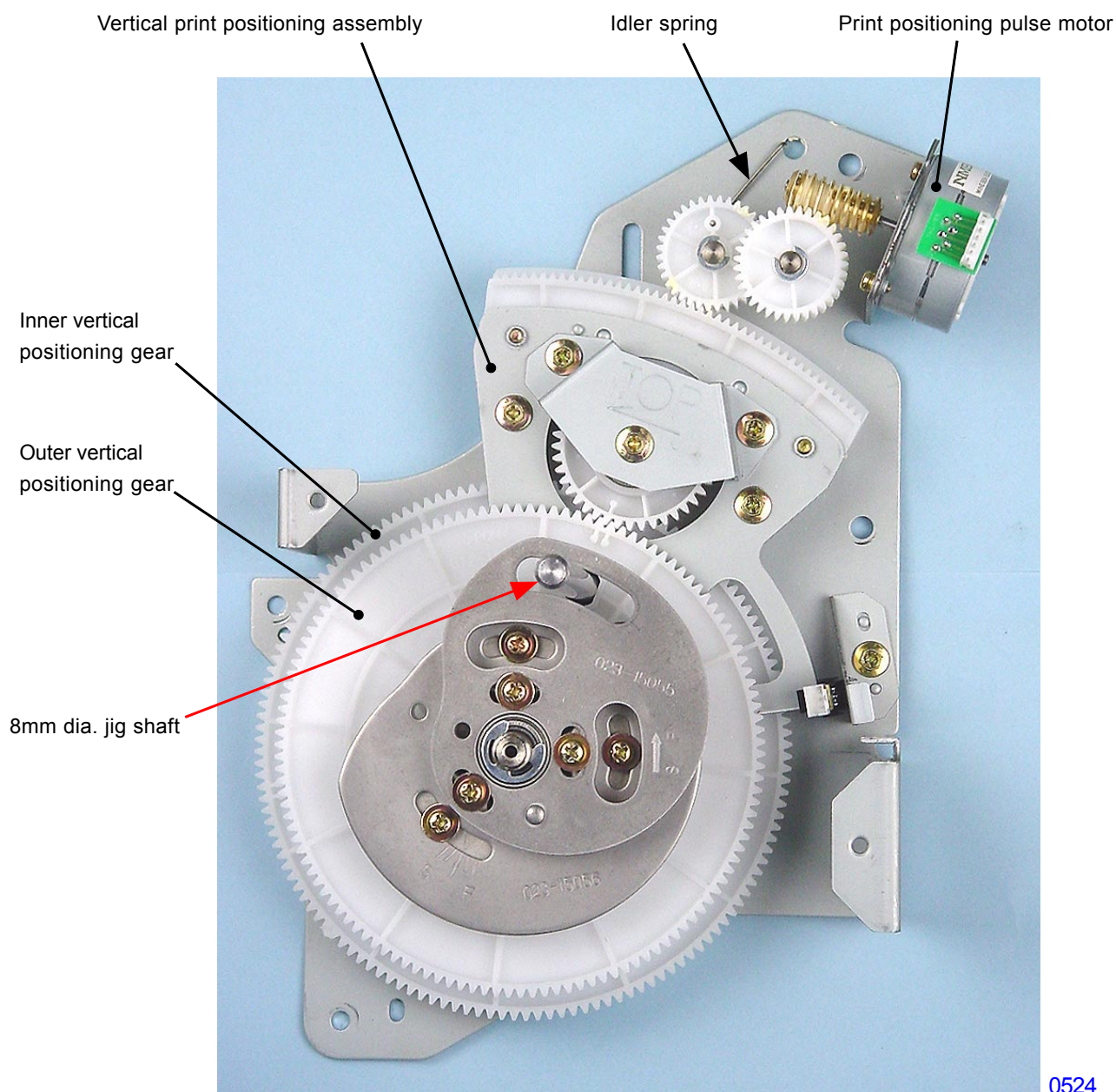
<< Precaution on assembly >>

Mount the paper feed drive unit on the machine so that one positioning mark on the main gear aligns in between the two positioning marks on the inner vertical positioning gear, making sure that 8mm diameter jig shafts are inserted into the position-B phase alignment holes on the main drive and paper feed drive area to align all to the machine position-B.



8. Removing the Print Positioning Pulse Motor

- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply and mechanical control PCBs.
- (2) Remove the paper feed drive unit from the machine.
- (3) To prevent the idler spring from moving the vertical print positioning unit, insert 8mm diameter jig shaft into the position-B phase alignment hole on the paper feed drive unit. (The jig shaft holes on the outer and inner vertical positioning gears meet every 5 turns of the inner vertical positioning gear.)
- (4) Remove screws (M3x6: 2pcs) and remove the vertical pulse motor.



0524

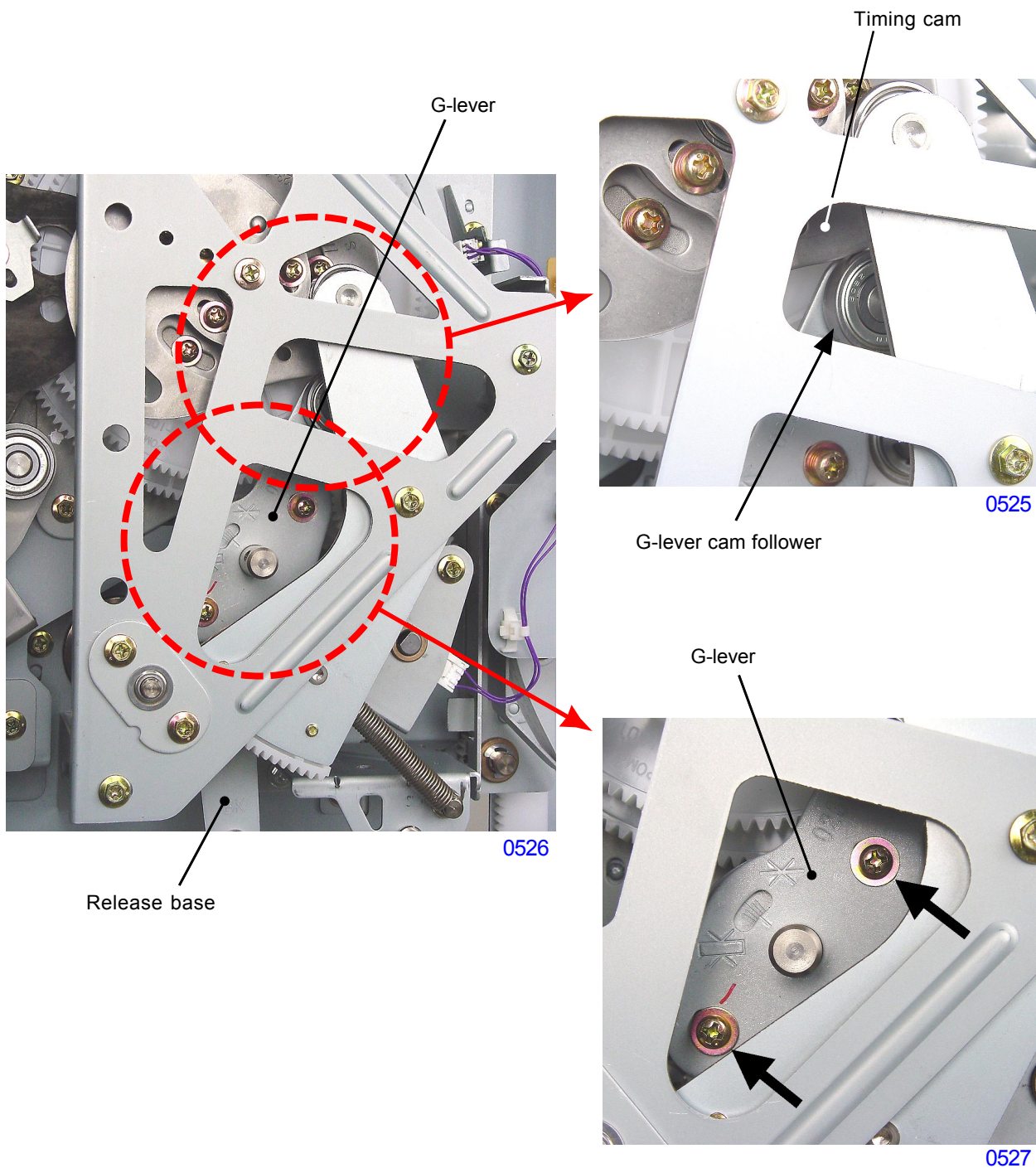
< Paper Feed Drive Unit >

Adjustment

1. G-lever Mounting Position Adjustment

Checks and adjustment

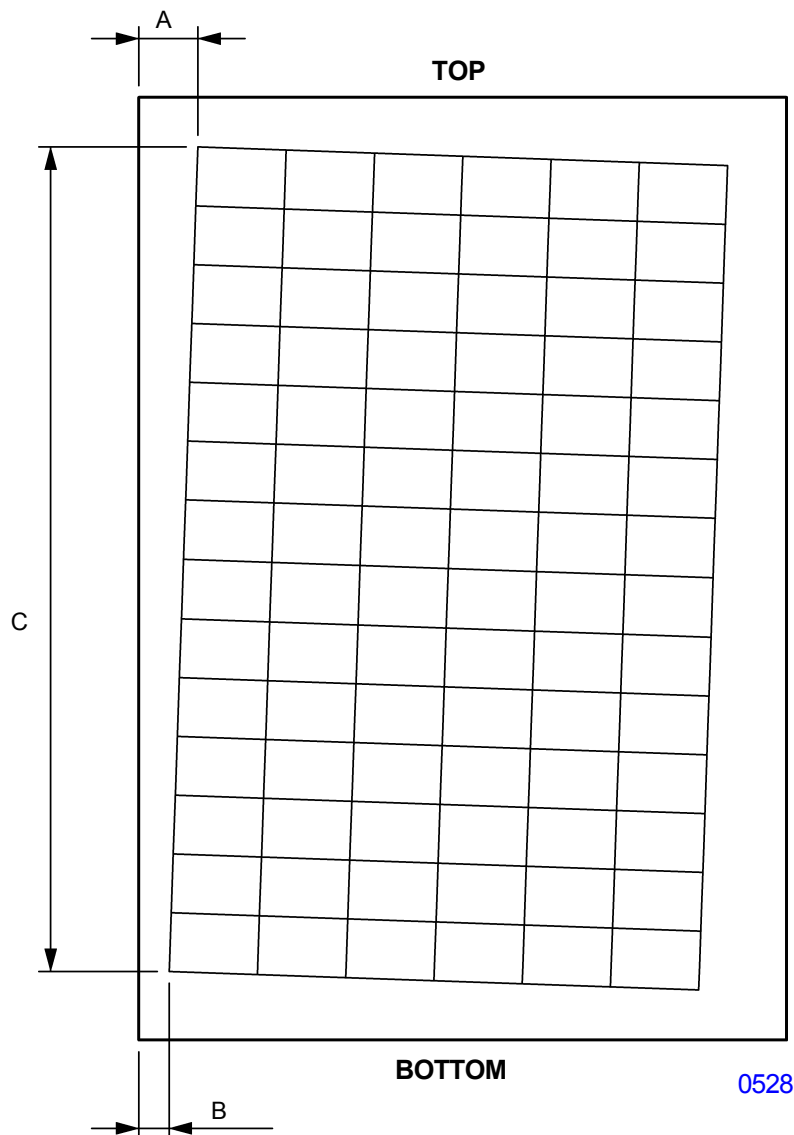
- (1) Run Test mode No.889 (G-Lever mounting position) and then switch off the machine power.
- (2) Remove the rear cover.
- (3) Loosen the two screws on the G-lever assembly, joining the G-lever and release base in one piece.
- (4) Push the G-lever cam follower against the timing cam and retighten the two screws, making sure that the cam follower is touching the cam.



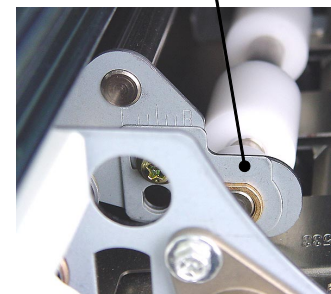
2. Paper Feed Skew Adjustment

Checks and adjustment

- (1) Load A3-size papers on the paper feed tray, run Test mode No. 81 to make cross-line image, and make 5 prints, and use the 5th print to check.
 - (2) Measure the distance (A) from the left edge of the paper to the first vertical line at the top of the sheet.
 - (3) Measure the distance (B) from the left edge of the paper to the first vertical line at the bottom of the sheet.
 - (4) Measure the total distance (C) from the top horizontal line to the bottom line on the left side of the sheet.
 - (5) Confirm that $(A - B) / C \times 100$ is less than 0.5%.
 - (6) If the skew is more than 0.5%, loosen one screw on the guide roller adjusting plate and two screws on the timing roller adjusting plate, and slide the two plates in the same direction in the same amount.
- * Moving the plates one graduation on the scale changes the paper skew by 0.25%.
 - * Moving the plates in the F imprint direction moves the image at the bottom of the sheet to the right, and moving in the R imprint direction moves the image at the bottom of the sheet to the left.

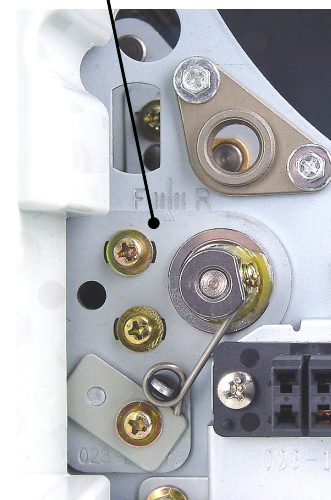


Guide roller adjusting plate



0529

Timing roller adjusting plate



0530

3. Print Start Position Adjustment

Checks and adjustment

Important: Before making this adjustment, make sure that both the Master clamp range adjustment and Write start position adjustment are correctly adjusted. (Refer to the chapter on master-making.)

- (1) Load A3-size papers on the paper feed tray, run Test mode No. 80 to make checker-flag image, and make 10 prints at speed 3 and use the 10th print to check.
- (2) Measure the distance from the leading edge of the paper to the top of the image and confirm that the measurement is 4 mm plus/minus 1 mm.
- (3) If the length is out of the specified range, make adjust using Test mode No.970 (vertical print position HP adjustment).

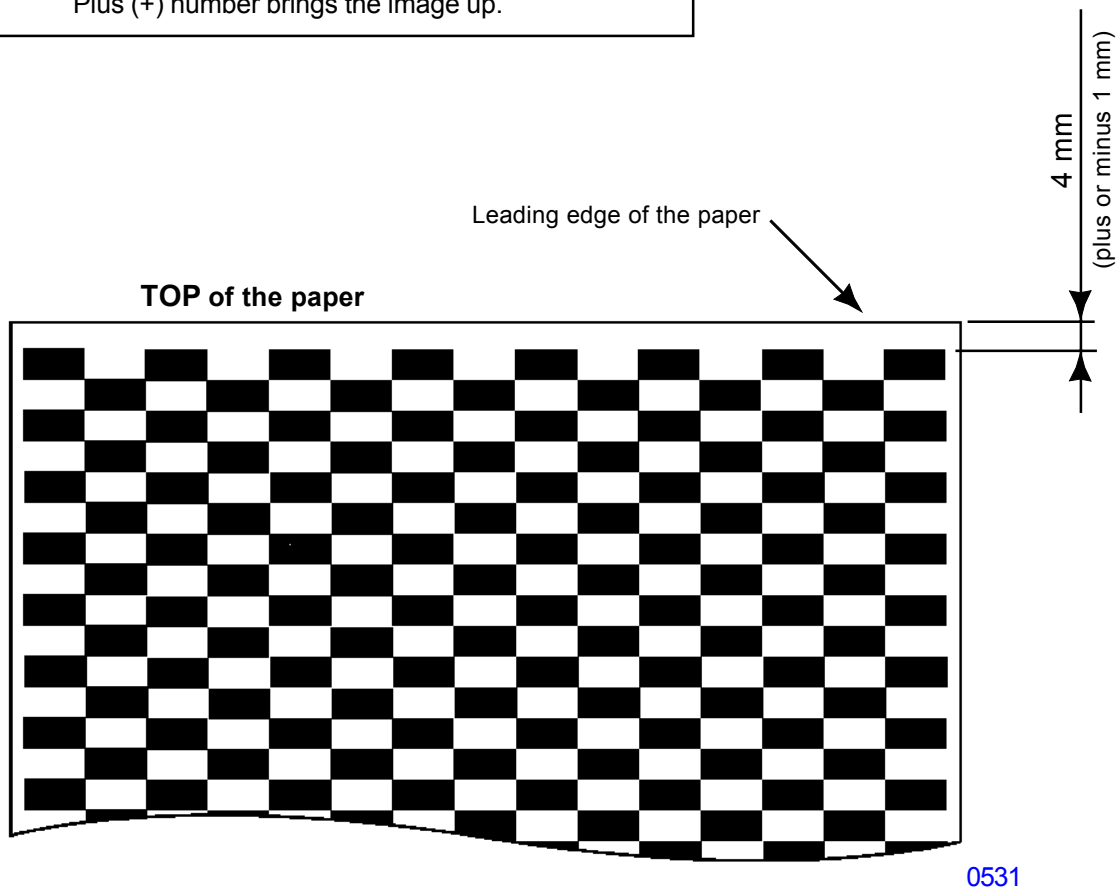
Test Mode No. 970 [Vertical print position HP adjustment]

Adjustable range: -50 to +50 (-5mm to +5mm)

Adjustable in units of 1 (1 = 0.1 mm)

Default setting = 0

Plus (+) number brings the image up.



MEMO

CHAPTER 6: PRESS SECTION

Contents

MECHANISM

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- 1. Mounting Position of the Pressure Lever;Spring 6-9

Mechanism

1. Press Mechanism

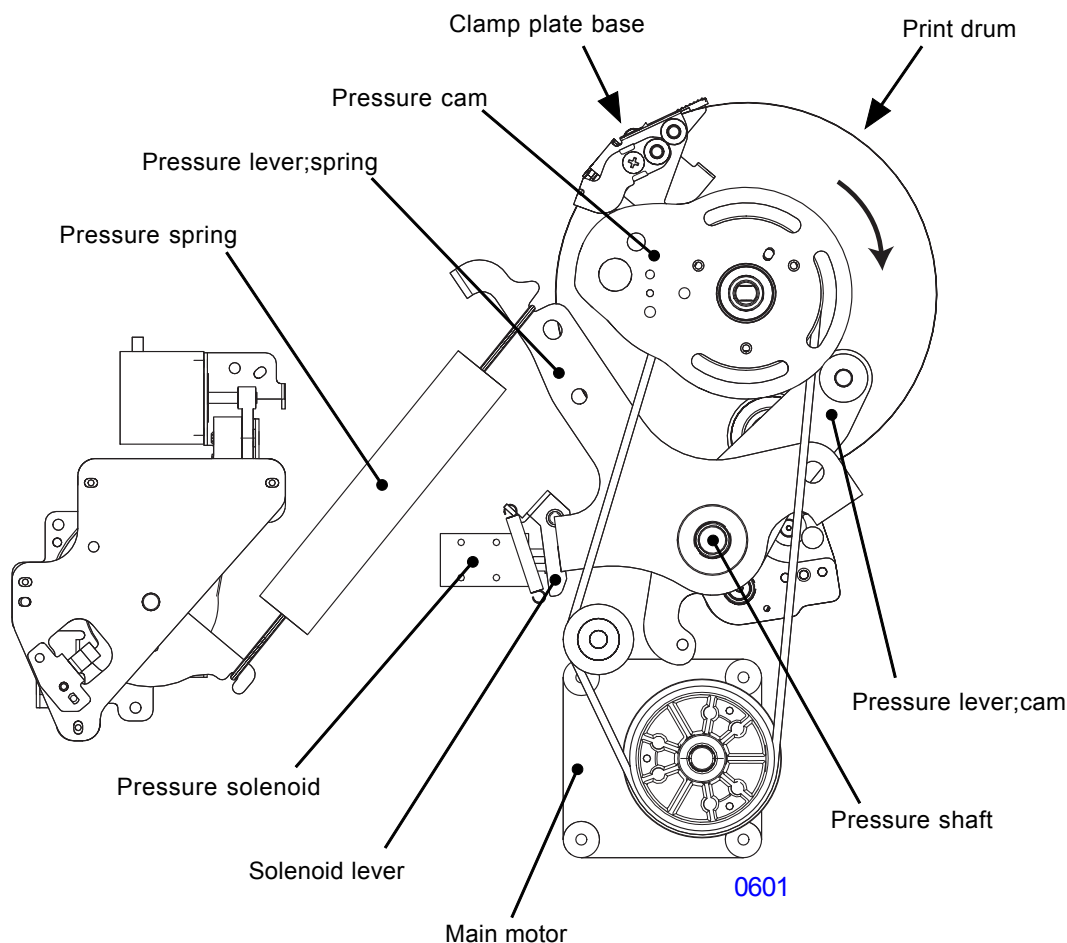
At the start of a printing job, the pressure solenoid turns ON when the print drum rotates to a given angle, and tries to unhook the solenoid lever away from the pressure lever;cam which is still engaged until the print drum makes further rotation.

As the print drum continues to rotate, the cam follower on the pressure shaft;cam start to ride on the high portion of the pressure cam, making the pressure lever;cam to swing in the clockwise direction with its pivot on the pressure shaft. As the lever starts to ride on the highest point on the cam, it touches and starts to swing the pressure lever;spring in the clockwise direction. As the pressure lever;spring swings in the clockwise direction with the pivot at the pressure shaft, the solenoid lever disengages and allows the pressure solenoid to pull the solenoid lever further in, completely disengaging it from the pressure lever;spring.

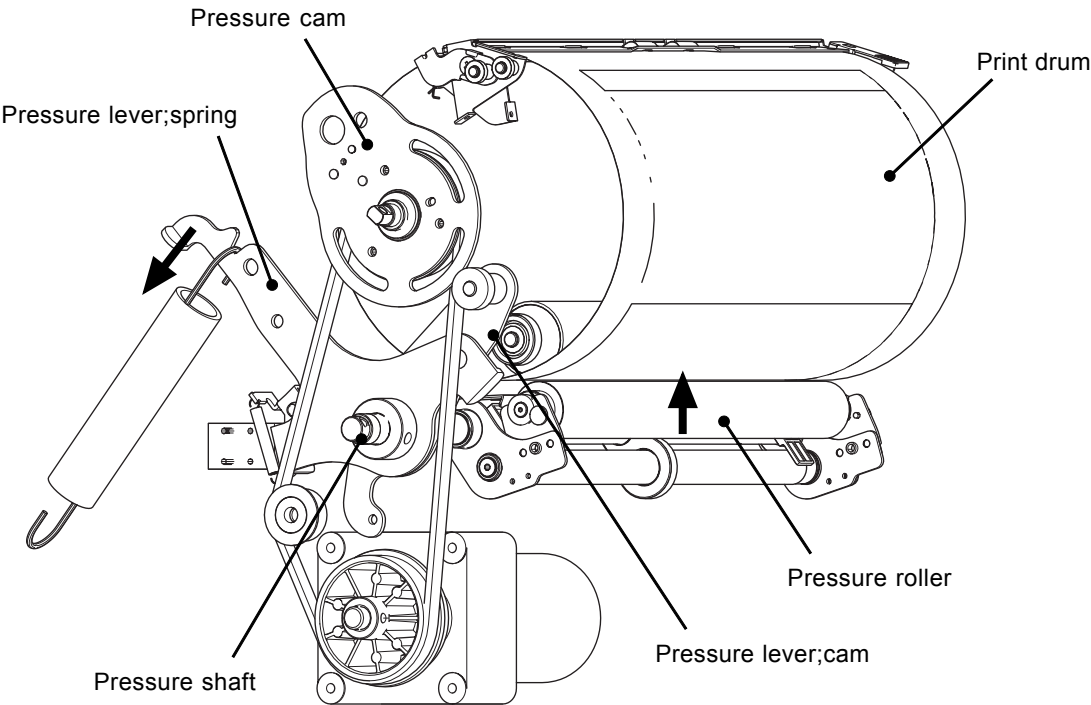
As the print drum rotates further, the pressure lever;cam starts to ride on the lower portion of the pressure cam, causing the lever to swing back in the counterclockwise direction. The pressure lever;spring, freed from the pressure lever;cam, is pulled by the pressure spring to rotate in the counterclockwise direction, rotating the pressure shaft in the counterclockwise direction together. The counterclockwise direction rotation of the pressure shaft lifts the pressure roller up and press against the print drum.

When the clamp base plate of the print drum approaches the pressure roller, the pressure cam pushes the pressure lever;cam in the clockwise direction and lowers the pressure roller so the roller does not hit the clamp plate.

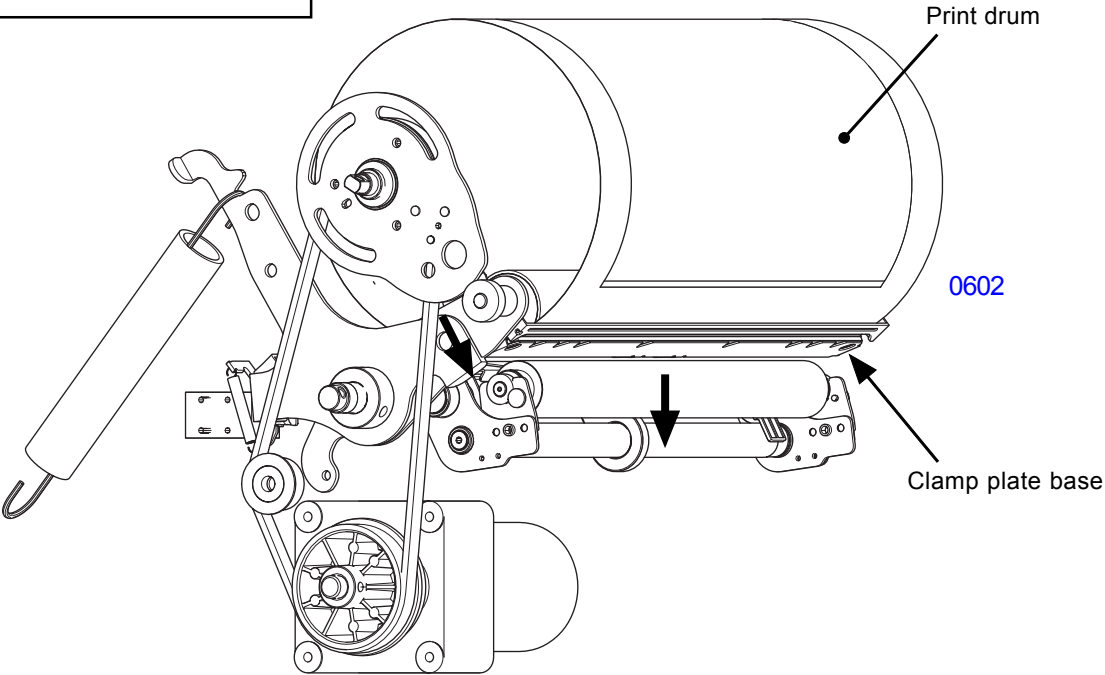
The pressure solenoid is kept ON all through the printing job. The solenoid goes OFF when the print drum comes to a given angle at the end of the printing job.



Pressure roller is raised

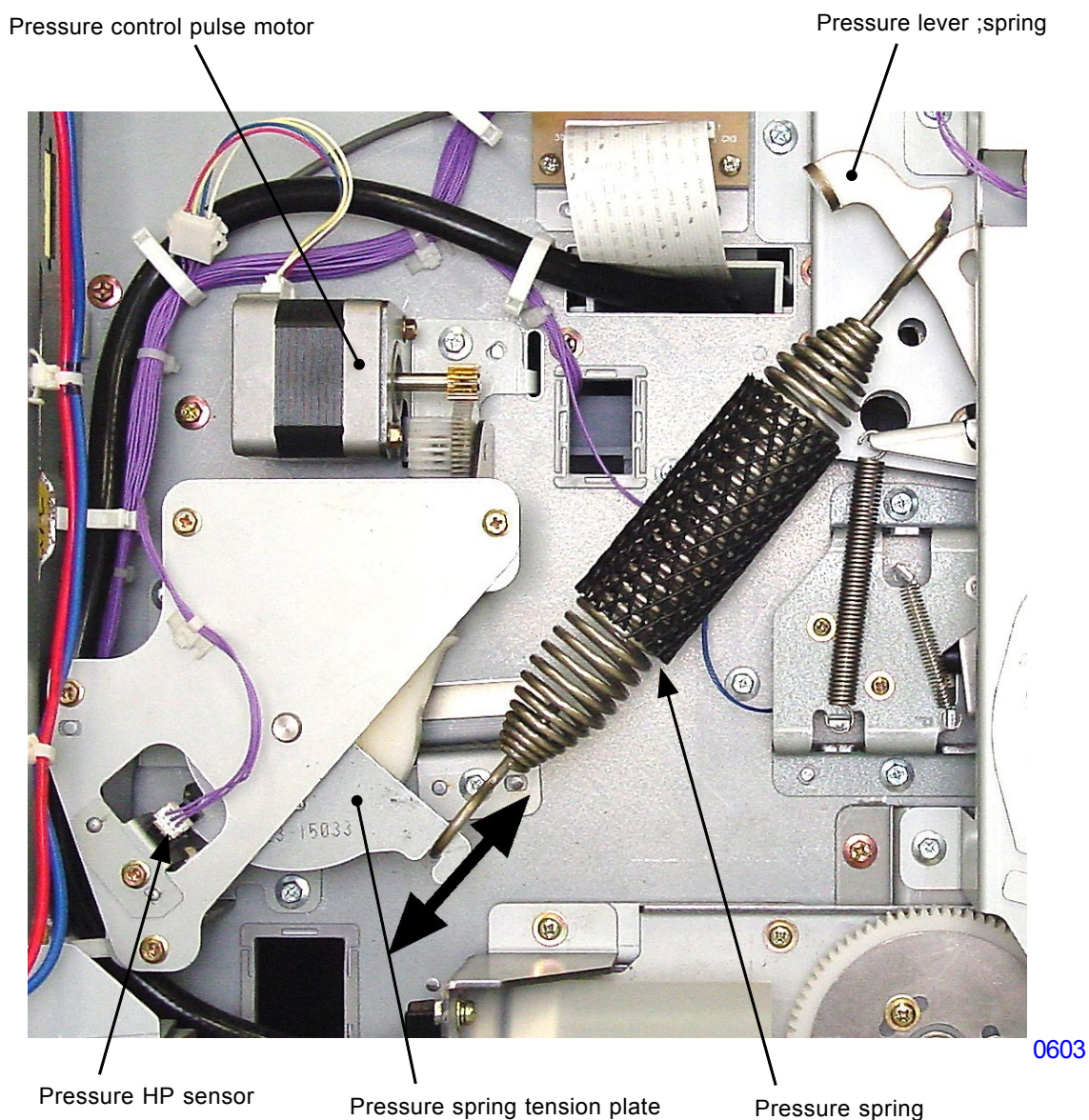


Pressure roller is lowered



2. Pressure Control Mechanism

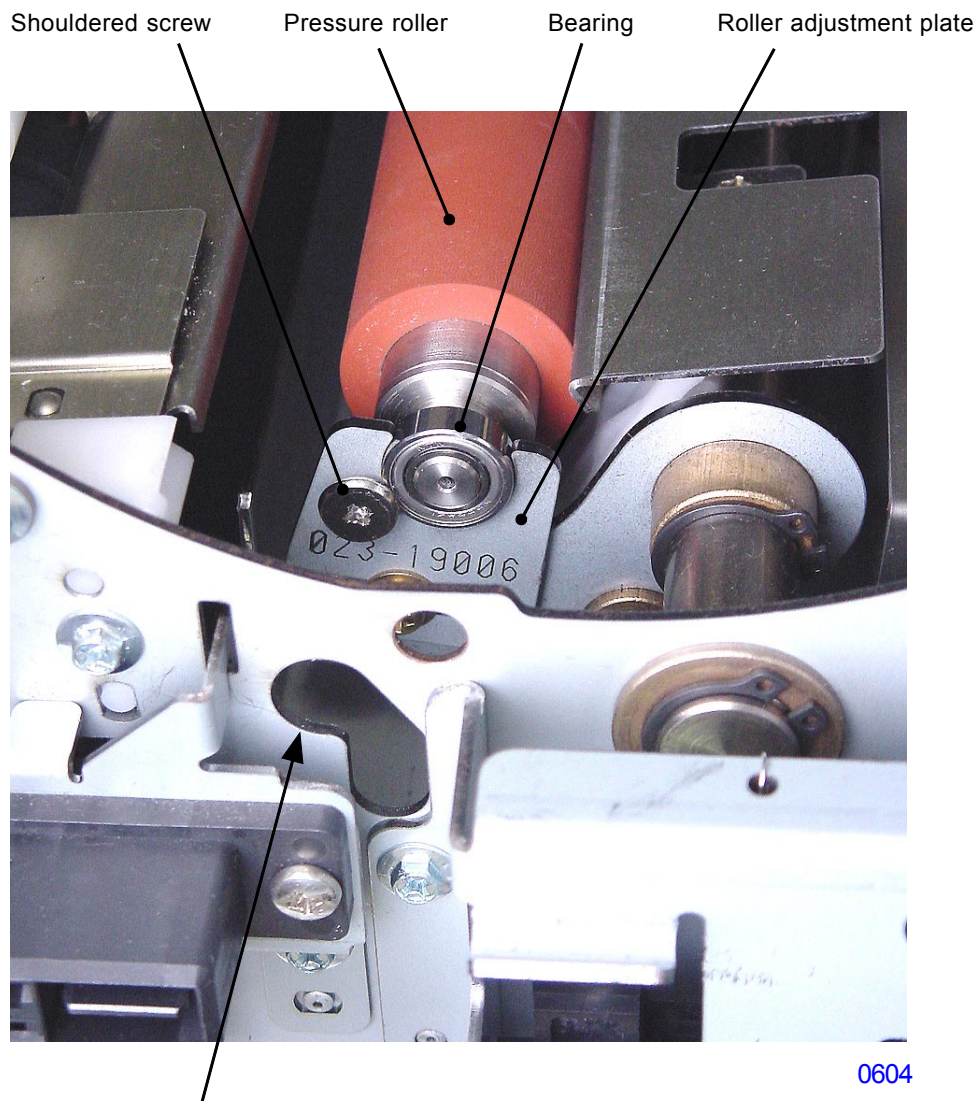
Pressing the ◀ or ▶ button of the print density key on the operation panel activates the pressure control pulse motor and moves the pressure spring tension plate. The movement of the pressure spring tension plate changes the tension of the pressure spring. This changes the amount of the pull applied on the pressure lever; spring, and changes the print density by changing how hard the pressure roller hits against the print drum. The print pressure control pulse motor activates only when the machine is in motion. The printing pressure varies depending on the printing speed, print density settings, ink color, how long the print drum was not used and internal temperature of print drum. The print pressure HP sensor detects the home position of the printing pressure.



Disassembly

1. Removing the Pressure Roller

- (1) Pull out the print drum and switch off the machine power.
- (2) Insert a screwdriver through the hole of the front frame, and remove the shouldered screw.
- (3) Pull the pressure roller forward until the bearing disengages from the roller adjustment plate, and then lift the roller up to remove.

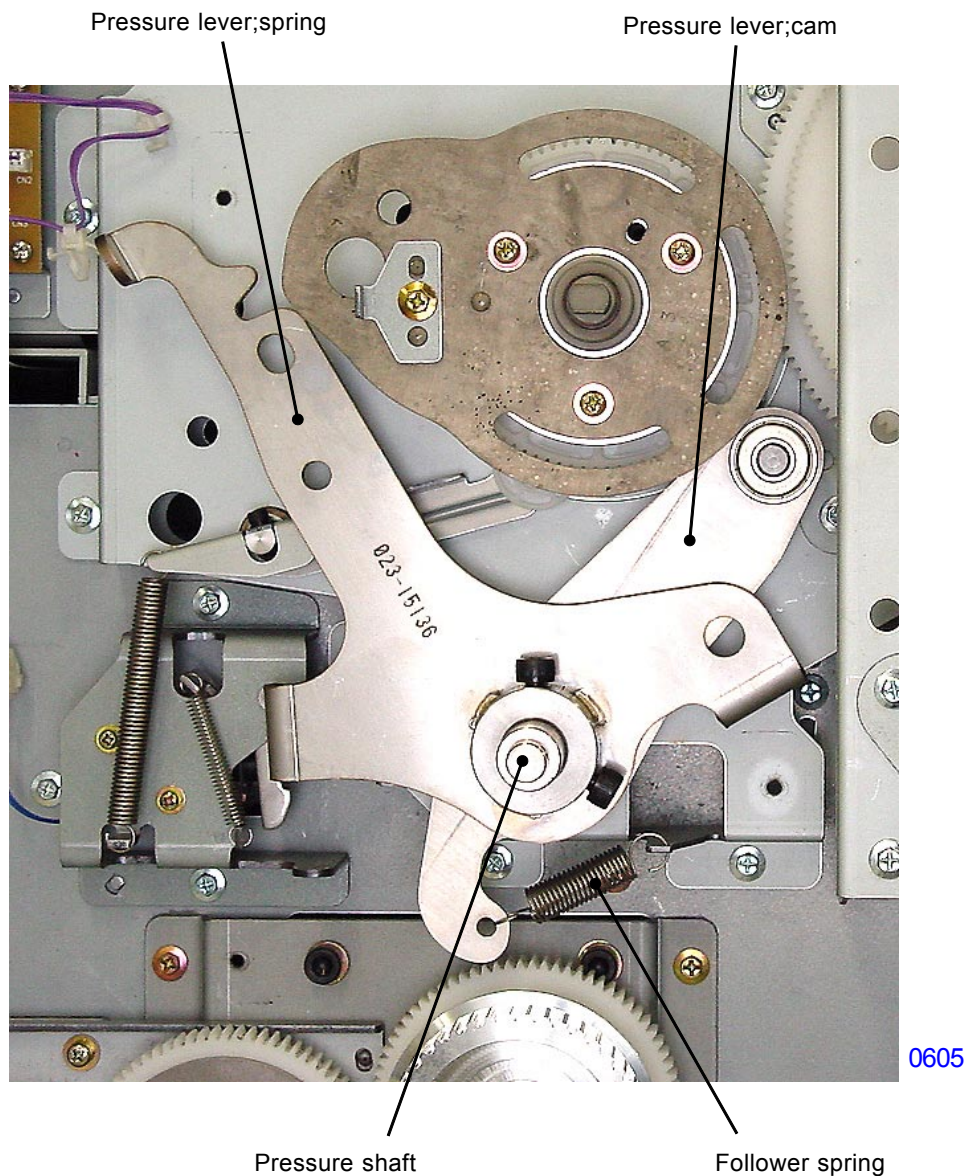


2. Removing the Pressure Lever;Spring & Pressure Lever;Cam

- (1) Remove the main belt. (Refer to chapter 3)
- (2) Unhook the follower spring.
- (3) Loosen cap screws (M6x10: 2pcs), and remove the pressure;spring and pressure;cam from the pressure shaft.

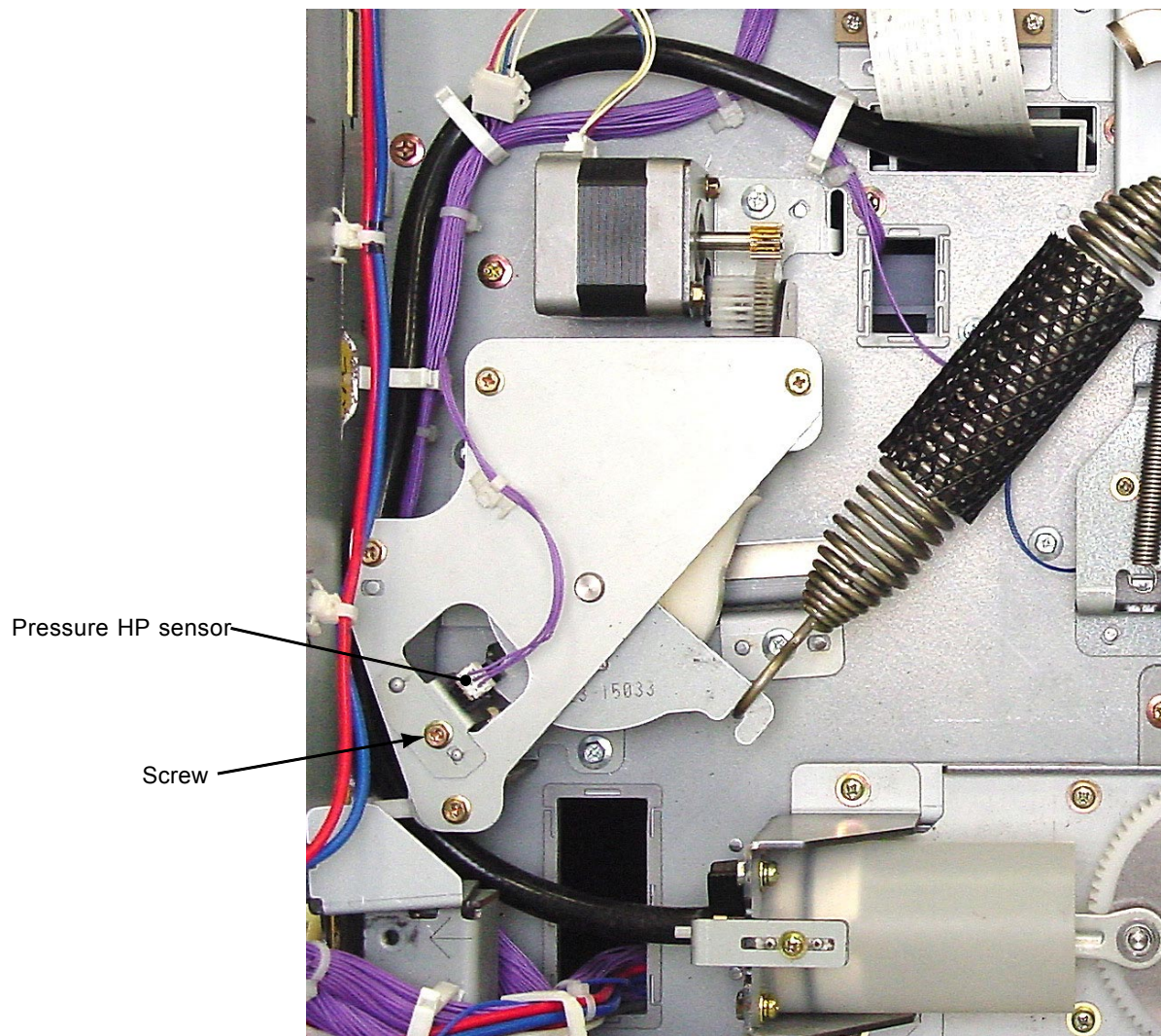
<< Precaution in Reassembly >>

Make sure to adjust the mounting position of the pressure lever;spring. (Refer to end of this chapter)



3. Removing the Pressure HP Sensor

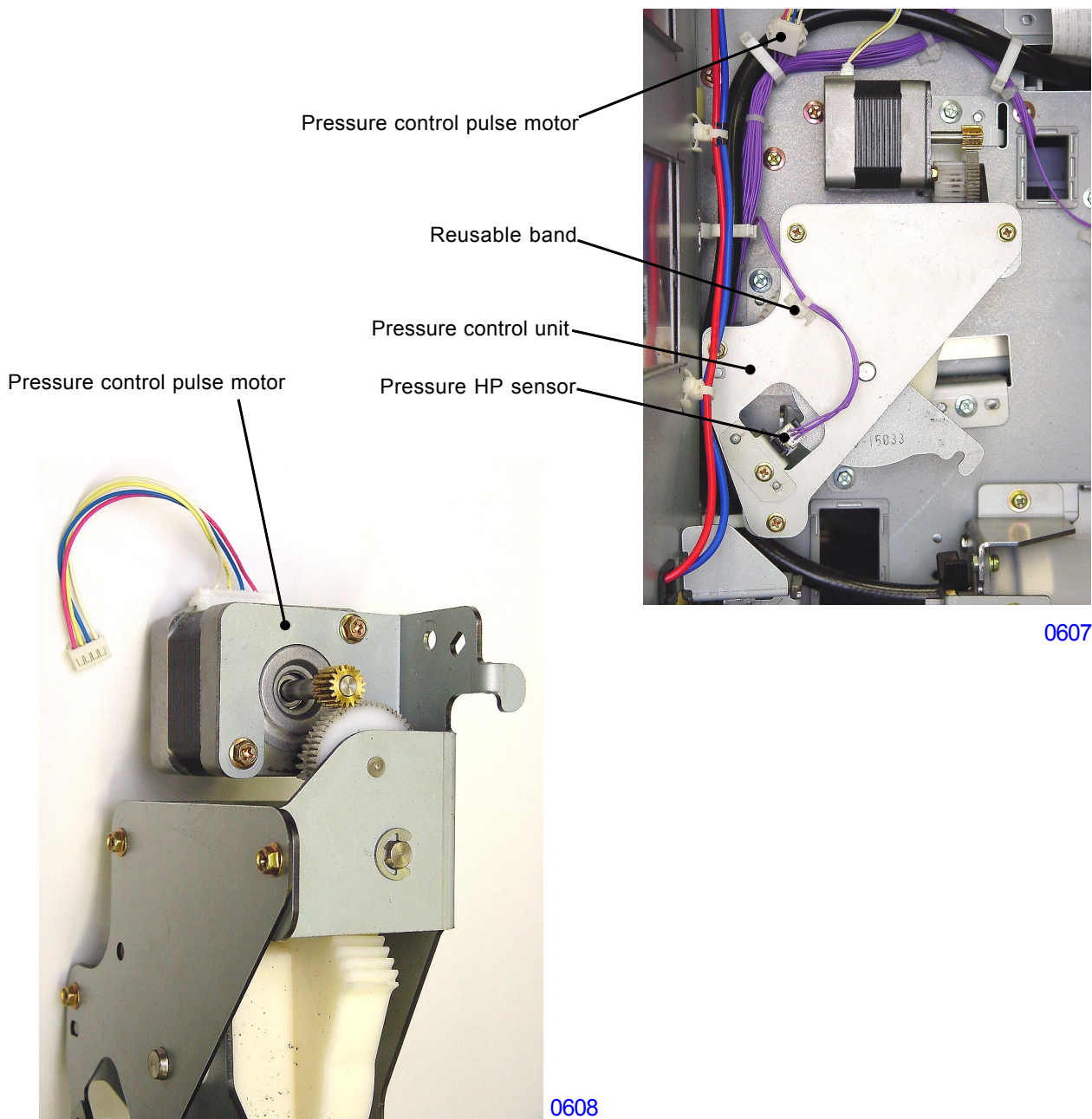
- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply PCB and mechanical control PCB.
- (2) Remove the pressure HP sensor from the machine together with the sensor bracket by disconnecting the sensor connector and a screw (M3x6: 1pc).



0606

4. Removing the Pressure Control Motor

- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply PCB and mechanical control PCB.
- (2) Remove the pressure spring.
- (3) Unplug the connector from the pressure HP sensor and detach the reusable band.
- (4) Unplug the connector from the pressure control pulse motor.
- (5) Remove screws (M4x8: 3pcs), and remove the pressure control unit from the machine.
- (6) Remove the pressure control pulse motor from the pressure control unit by removing screws (M3x6: 2pcs).



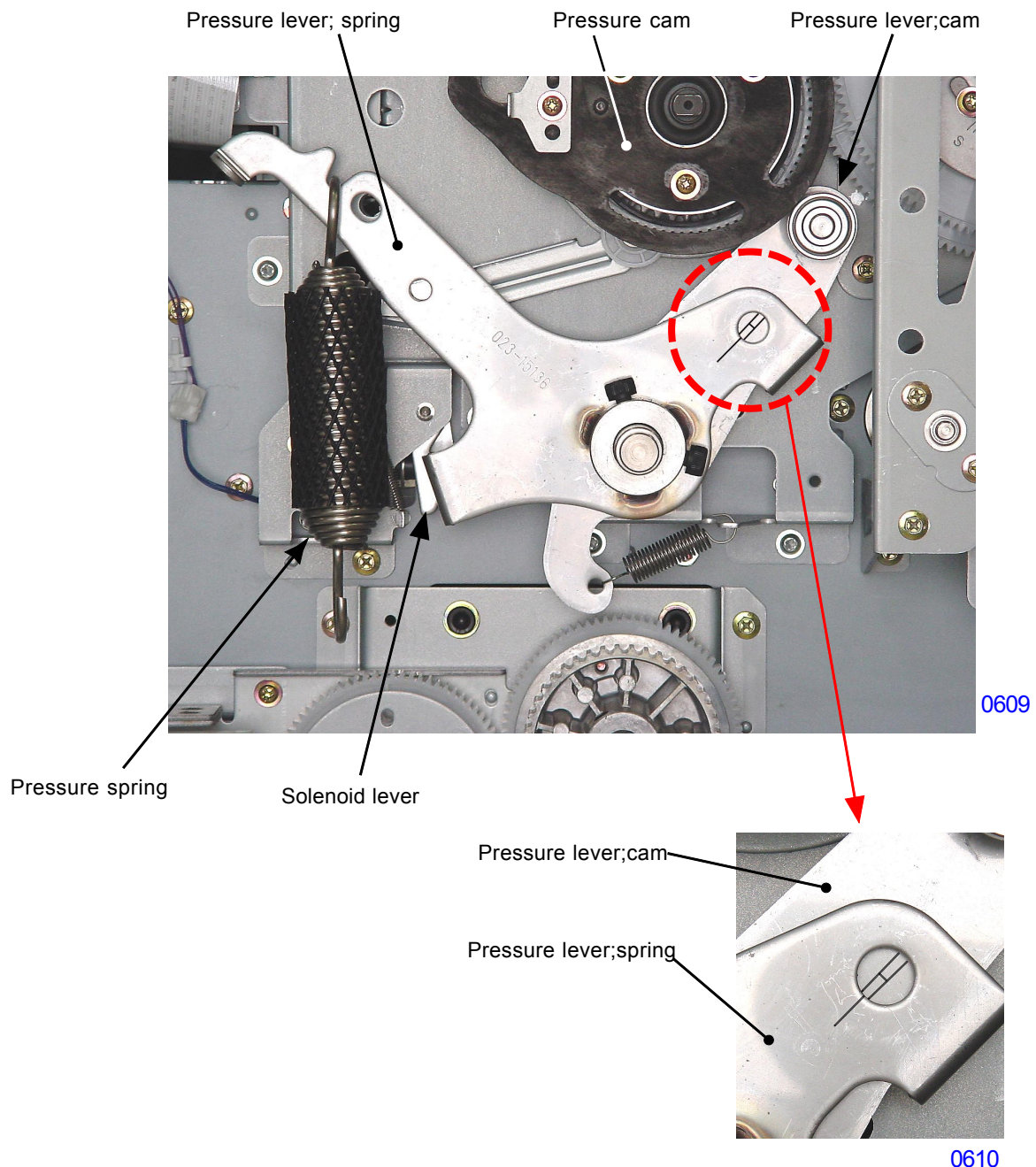
< Pressure Control Unit >

Adjustment

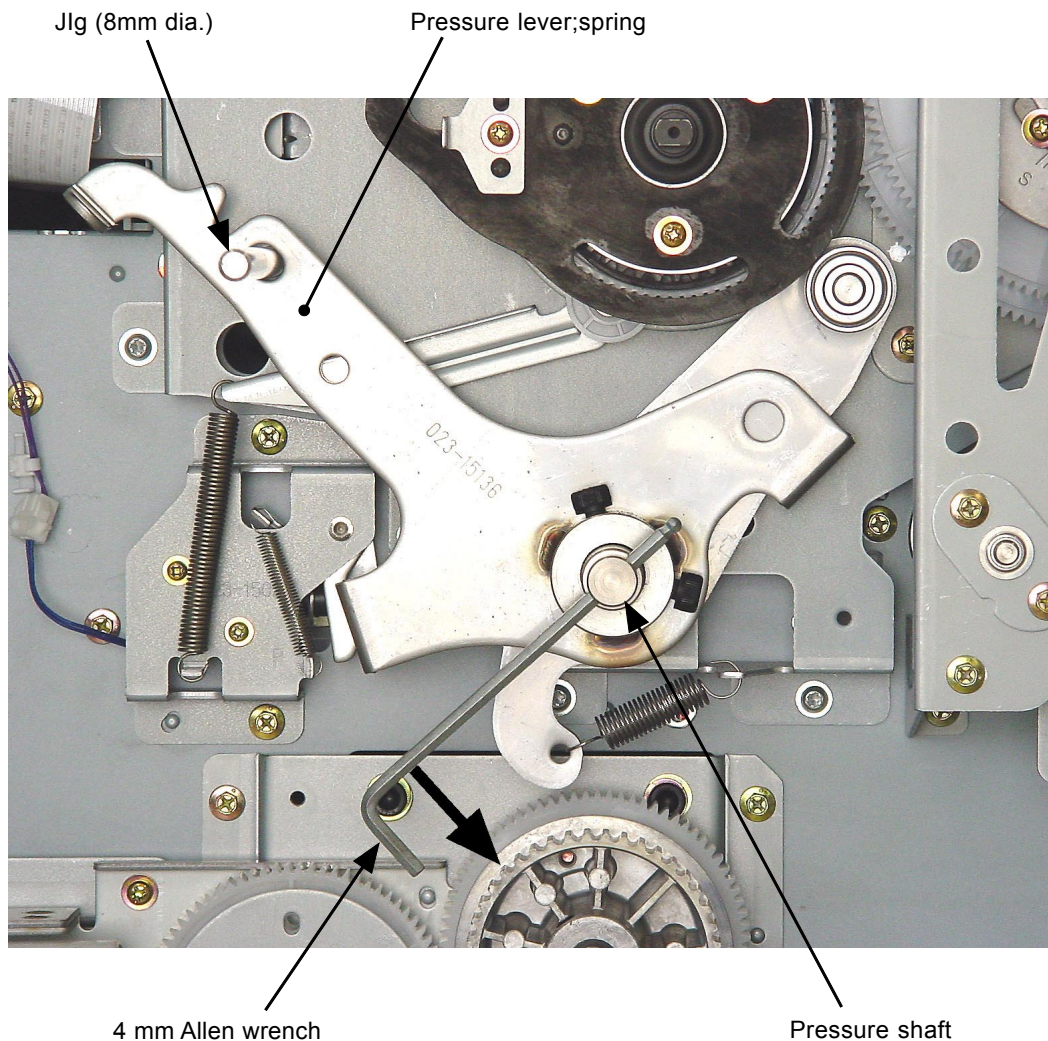
1. Mounting Position of the Pressure Lever;Spring

Checks and adjustment

- (1) Make confidential master on the print drum and turn off the machine power.
- (2) Remove the main cover assembly. (Refer to chapter 3)
- (3) Hook the pressure spring onto the pressure lever;spring and let the spring hang loose.
- (4) Unhook the solenoid lever from the pressure lever;spring and allowing the pressure roller to contact the print drum by the weight of the pressure spring hooked on the pressure lever;spring.
- (5) With the cam follower of the pressure lever;cam touching the pressure cam, confirm that the engraved line on the pressure lever;spring aligns in between the two engraved lines on the pressure lever;cam.



- (6) If step (5) is out of the specification, remove the pressure spring and loosen the two cap screws on the pressure lever;spring.
- (7) Align the hole on the pressure lever;spring with the position-B phase alignment hole, and insert the 8mm diameter JIG shaft through the two holes to fix the position of the pressure lever;spring in position.
- (8) Insert a 4mm Allen wrench through the hole on the tip of the pressure shaft and rotate the Allen wrench in the counterclockwise direction as shown on the photograph below, so the pressure roller touches the print drum very lightly. Tighten the two cap screws on the pressure lever;spring to fix the lever onto the shaft.
- (9) Recheck whether the pressure lever;spring is attached in a correct position or not by repeating steps (3) to (5) on the previous page and if the position is still incorrect, repeat the adjustments listed from (6) to (8) on this page.



Symptoms

- If the engraved line on the pressure lever;spring goes out to the left of the two lines on the pressure lever;cam, the pressure will be too weak and the printing density may become too light. Also the up-and-down motion of the pressure roller is out of the correct timing, and it may result in ink leakage from the print drum.
- If the engraved line on the pressure lever;spring goes out to the right of the two lines on the pressure lever;cam, the pressure is too strong. Also, the distance in which the pressure roller escapes from the clamp plate base assembly becomes less, and the pressure roller may hit the clamp plate. In addition to the too much pressure, the up-and-down motion of the pressure roller becomes out of timing, and may result in ink leakage from the print drum.

CHAPTER 8: PRINT DRUM SECTION

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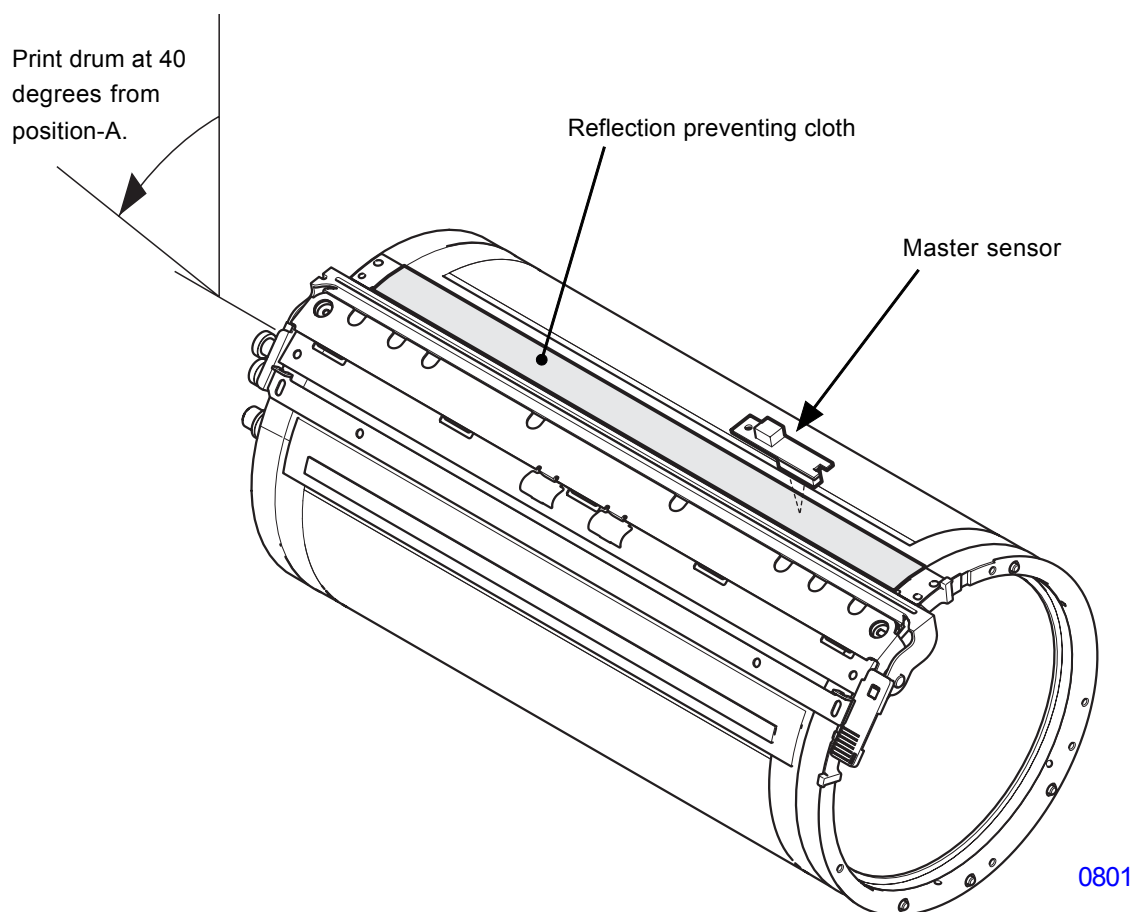
Mechanism

1. Master on the Drum Check Mechanism (Before Printing)

The machine checks for the presence of the master on the print drum at the start of a print job..

With a push of the Start key to begin the printing operation, the print drum starts to rotate and at drum angle 40 degrees from the position-A, the master sensor checks if a master is wrapped on the print drum or not.

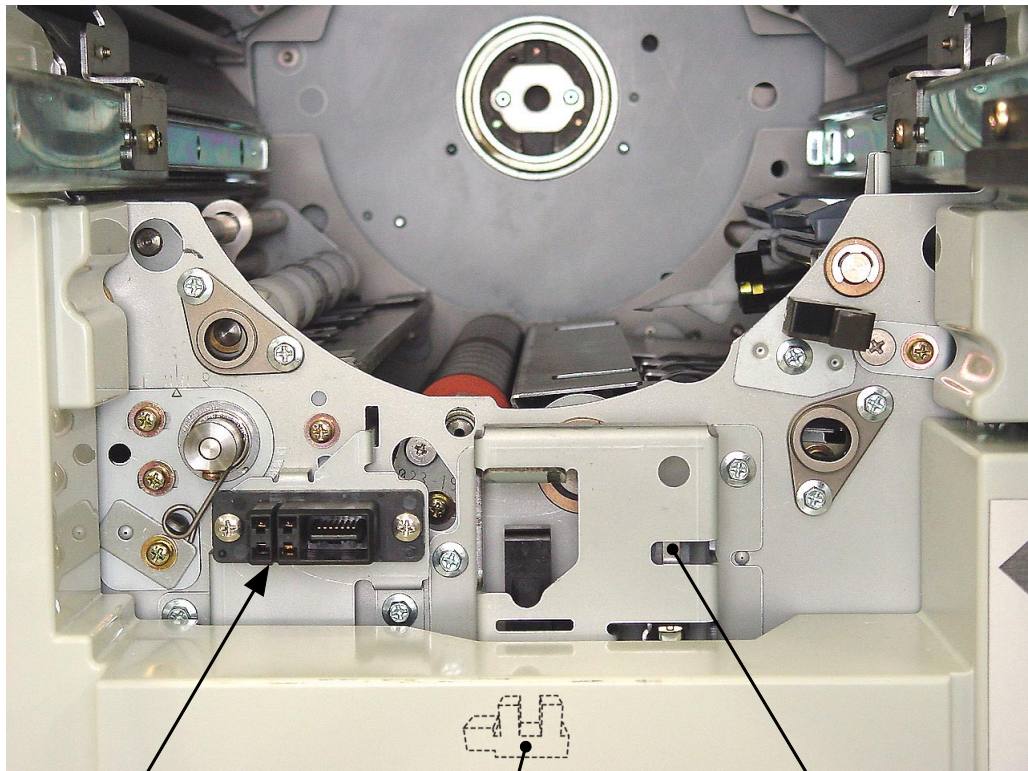
If a master is found on the print drum, the printing operation takes place, but if a master is not detected, the machine stops. Once the master is detected on the print drum, the information is memorized on the machine. The master sensor no longer checks for the master on the print drum from the next printing job until a new master is made, print drum is pulled out of the machine, or the power to the machine is turned OFF.



2. Print Drum Set Mechanism

The removal and insertion of the print drum is done at print drum position-B stop position. Whether the print drum is set in the machine or not is checked by the drawer connector of the print drum, print drum safety SW and print drum lock sensor.

When the print drum safety SW is OFF, the main motor, clamp motor, master removal vertical transport motor and master compression motor will not go ON.



Drawer connector

Print drum lock sensor

Print drum safety SW

3. Print Drum Rotation Mechanism

When the main motor rotates, the drive is transferred in following sequence.

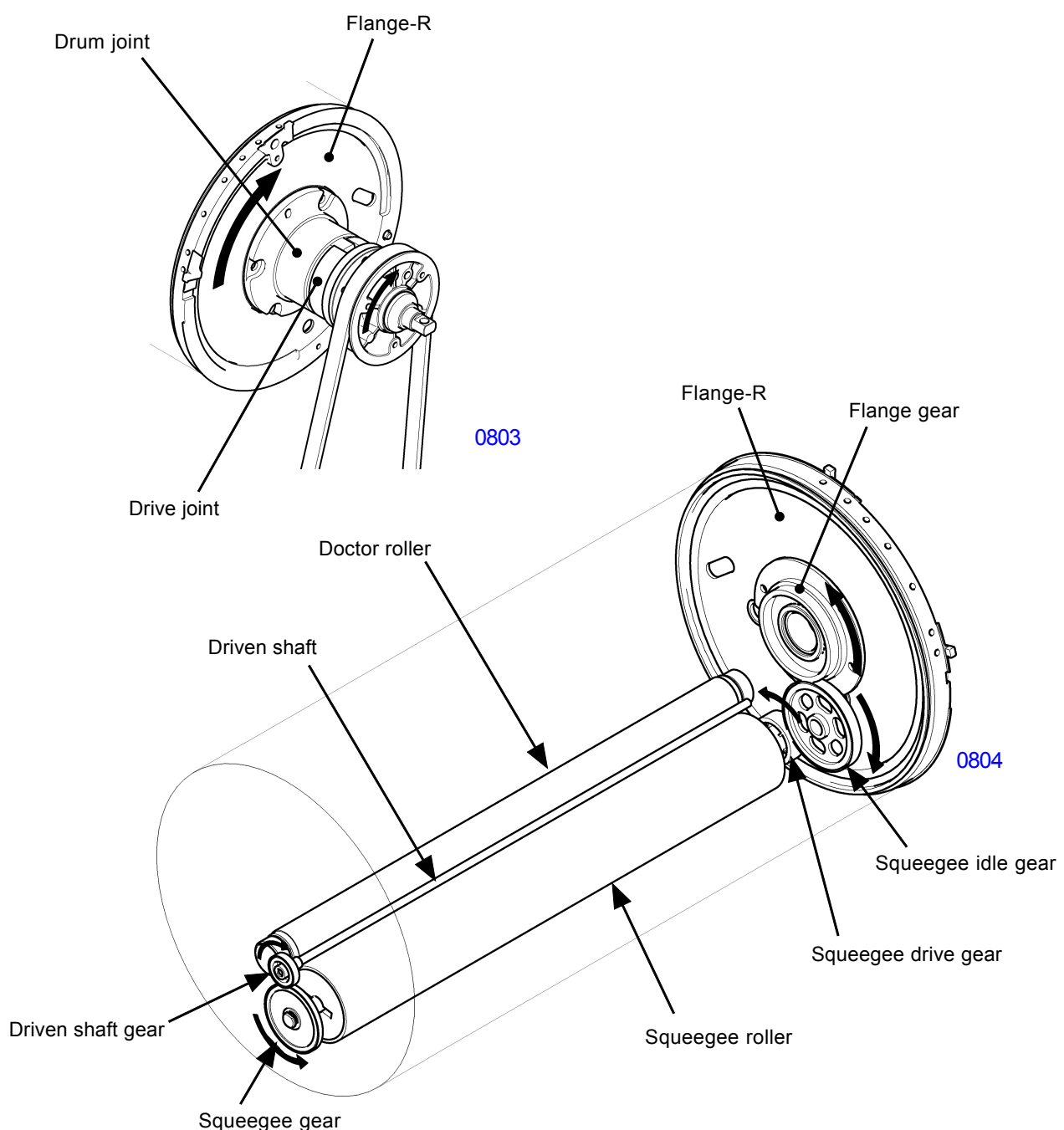
The main motor drive is transferred to the main shaft assembly via main belt, and via the drive joint the drum joint receives the drive and rotates the flange-R of the print drum.

The flange gear on flange-R drives the squeegee idle gear and the drive is transferred to the squeegee drive gear to rotate the squeegee roller.

As the squeegee roller rotates, the squeegee roller attached on the squeegee roller shaft rotates and transfers the drive to the driven shaft gear and rotates the driven shaft.

The squeegee drive gear contains a one-way clutch to prevent the squeegee roller from rotating in the reverse direction if by accidentally the print drum is rotated in the opposite direction by hand.

The doctor roller is fixed in position and does not rotate.



4. Inking Mechanism

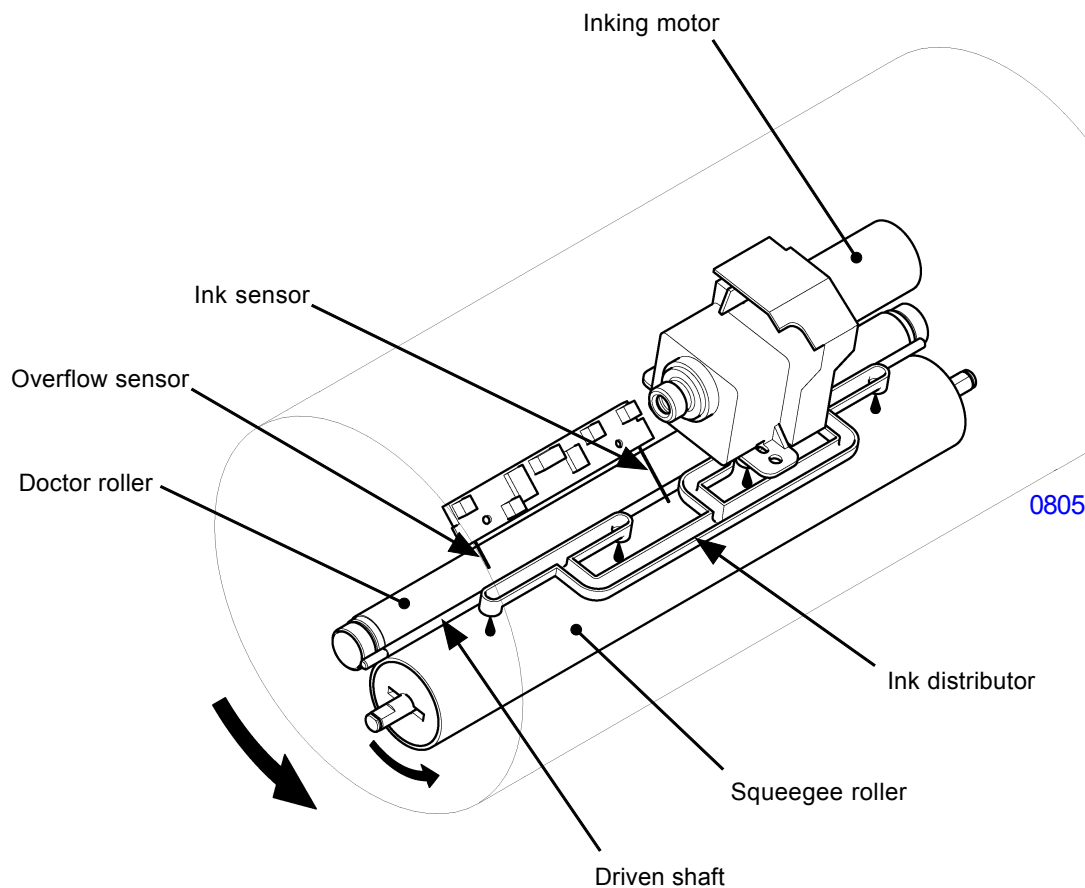
The ink is pumped into the print drum from the ink bottle when the ink sensor in the print drum no longer detects the ink in the drum while the drum is rotating with the main motor ON.

The pumped ink is distributed on to the squeegee roller from the holes on the ink distributor.

The ink distributed on the squeegee roller makes a long ink bead around the driven roller located between the squeegee roller and doctor roller. Once the bead of ink touches the ink sensor the ink motor deactivates to stop the inking action.

There is a small gap made between the doctor roller and squeegee roller. From this gap the ink from the bead of ink transfers onto the inner surface of the print drum via the squeegee roller.

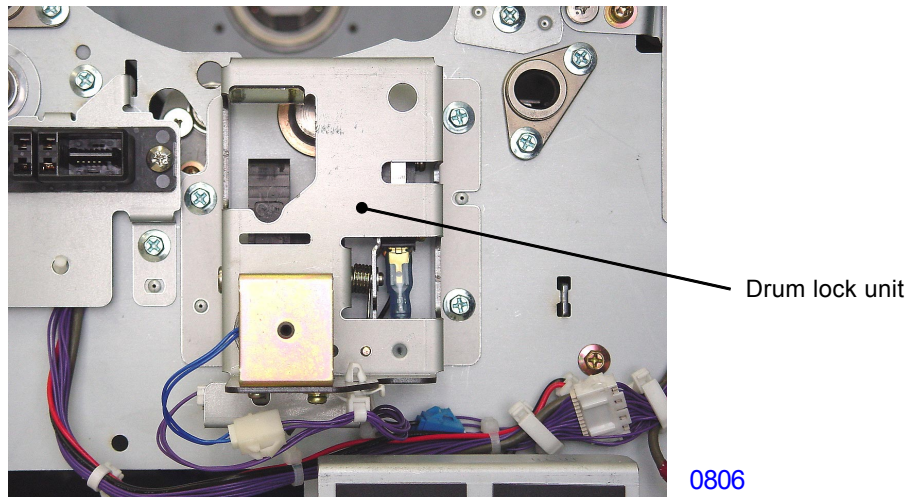
The overflow sensor is located in the print drum to stop the machine to prevent ink overflow in the case the bead of ink for some reasons becomes too large.



Disassembly

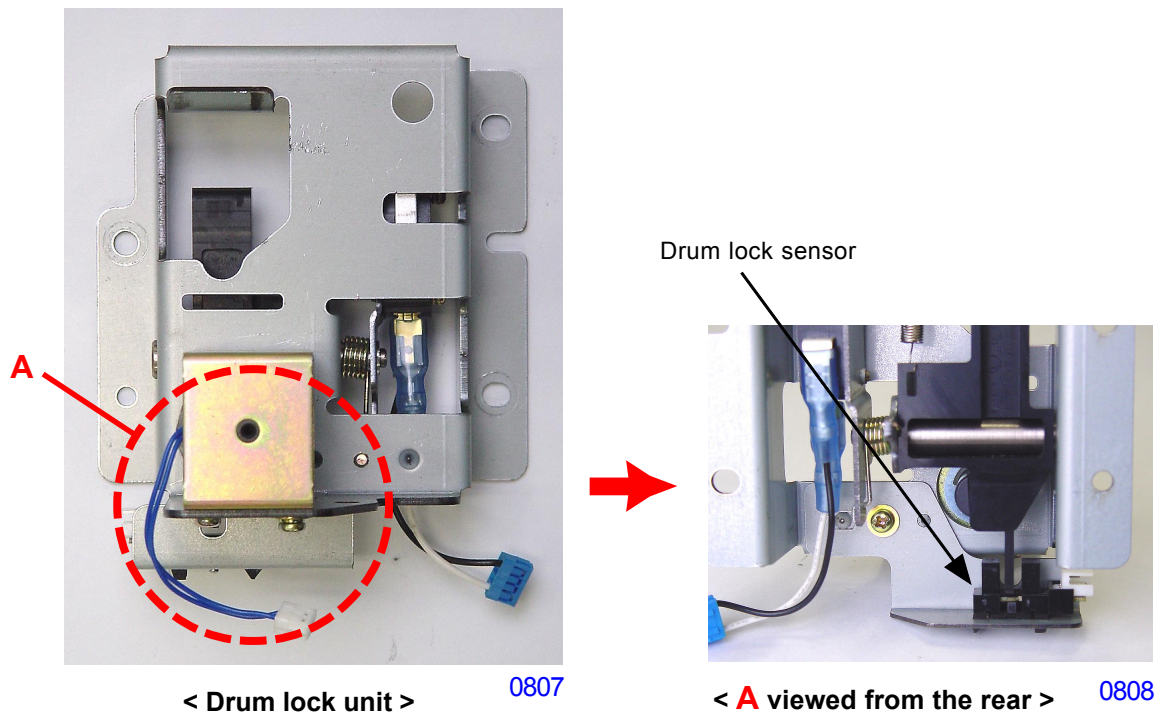
1. Removing the Drum Lock Sensor, Drum Solenoid, Drum Safety Switch

- (1) Remove the print drum from the machine, switch off the machine power and remove the front cover.
- (2) Remove screws (M4x8: 3pcs), unplug the wire harness connectors (3 locations), and remove the drum lock unit.



Removing the print drum lock sensor

- (3) Remove a screw (M3x6: 1pc) and detach the print drum lock sensor from the drum lock unit together with the sensor bracket.



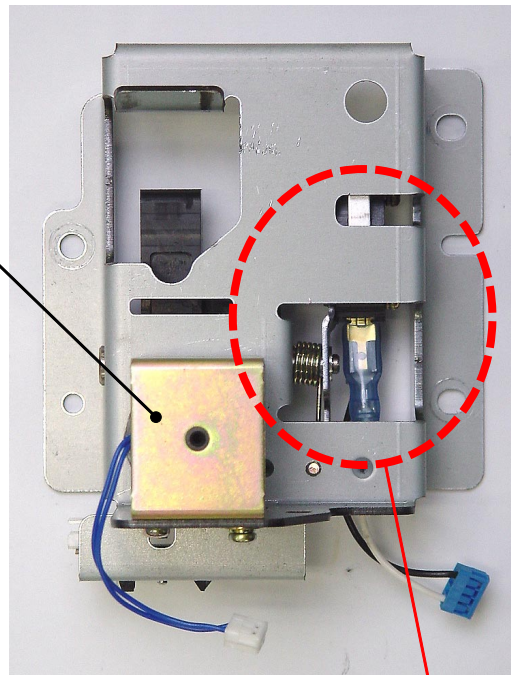
Removing the print drum lock solenoid

- (3) Remove screws (M3x6: 2pcs) and detach the print drum lock solenoid.

Removing the print drum safety switch

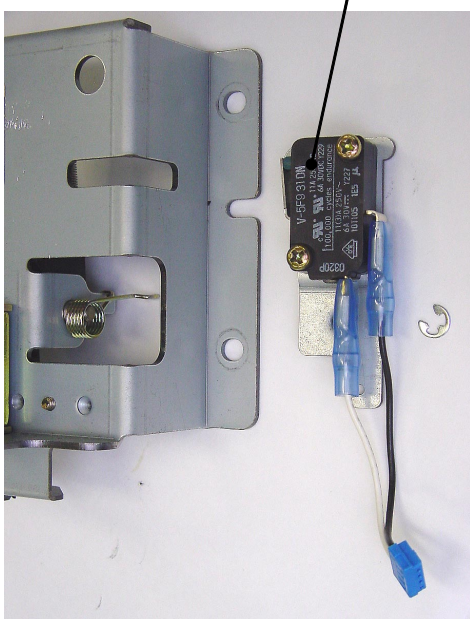
- (3) Unhook the torsion spring, remove the E-ring, and detach the drum safety switch together with the switch bracket.

Print drum lock solenoid

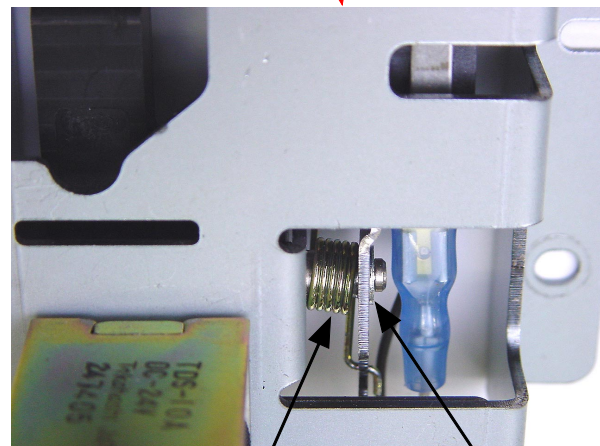


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Print drum safety switch



0811



0810

Torsion spring

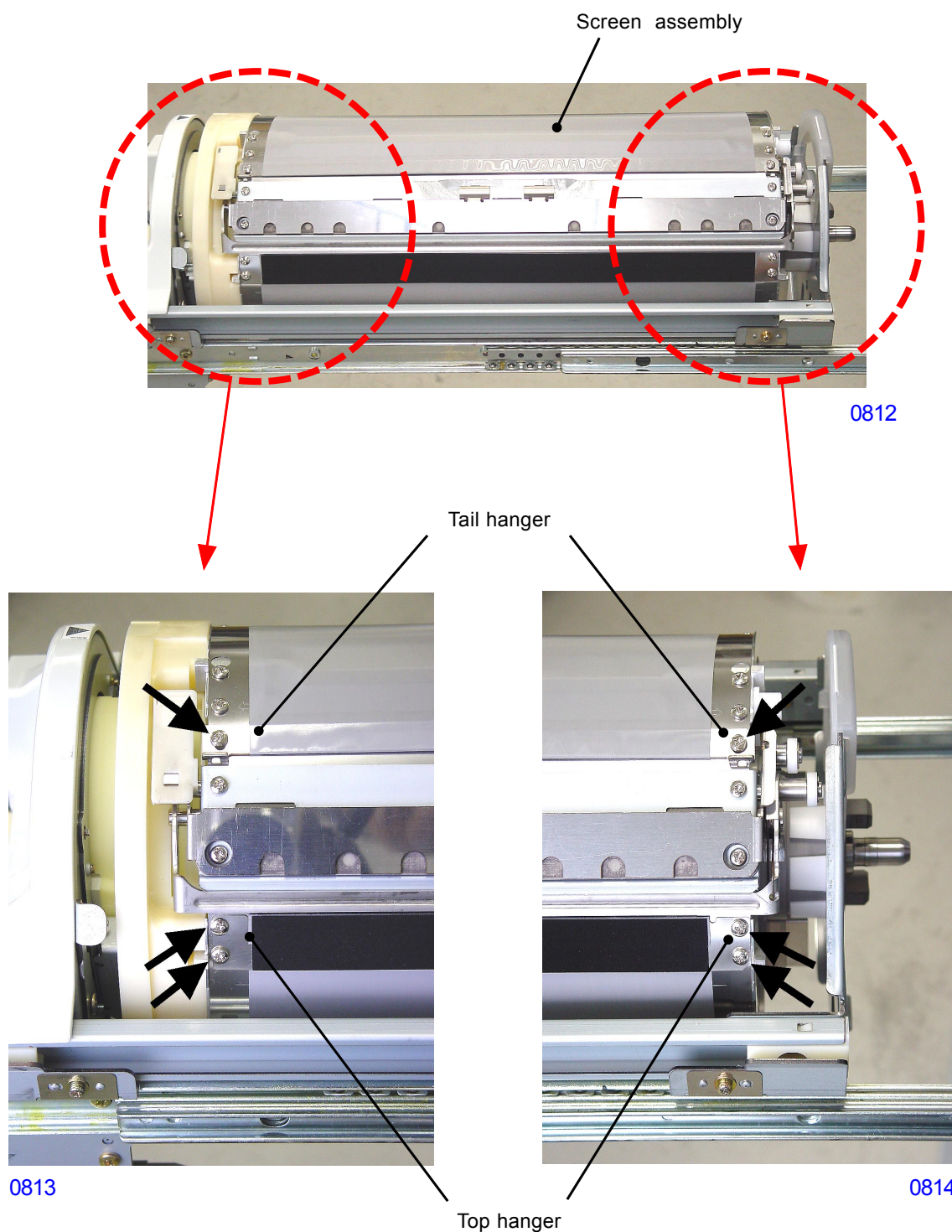
E-ring

2. Removing the Screen Assembly

- (1) Make a confidential master on the print drum and pull the print drum out of the machine.
- (2) Remove screws from the tail hanger (M3x6: 2pcs).
- (3) Remove screws from the top hanger (M3x6: 4pcs) and remove the screen assembly from the print drum.

Caution: Do not fold or bend the screen assembly during the removal or installation.

Refer to the next page for the precautions in reassembly.

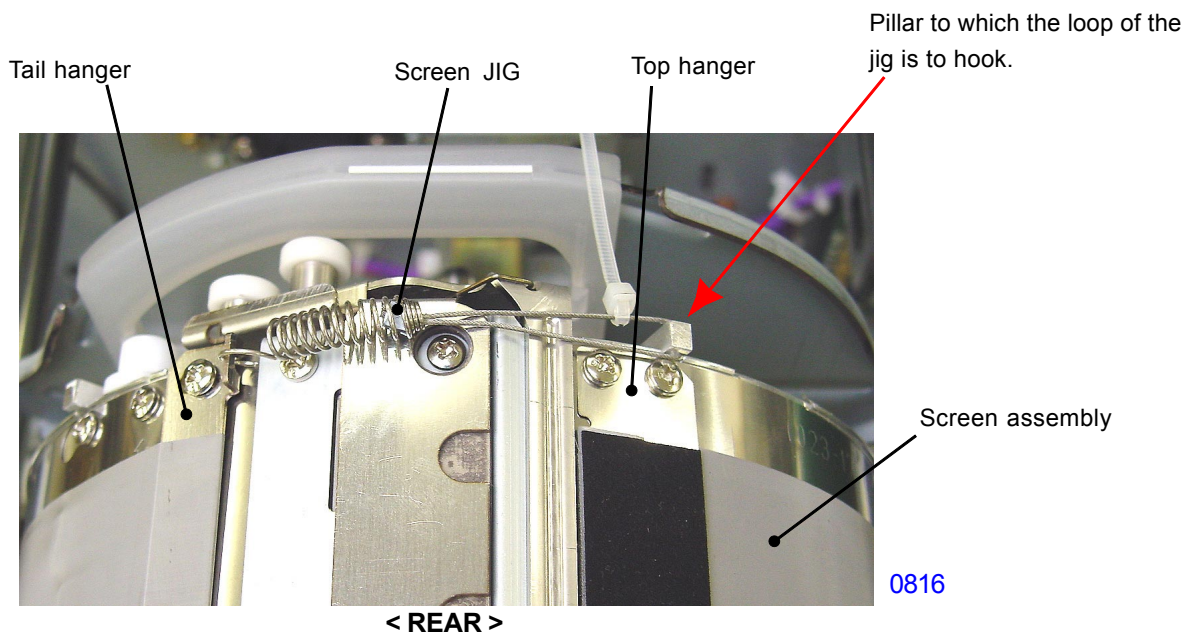


< Precautions in Reassembly >

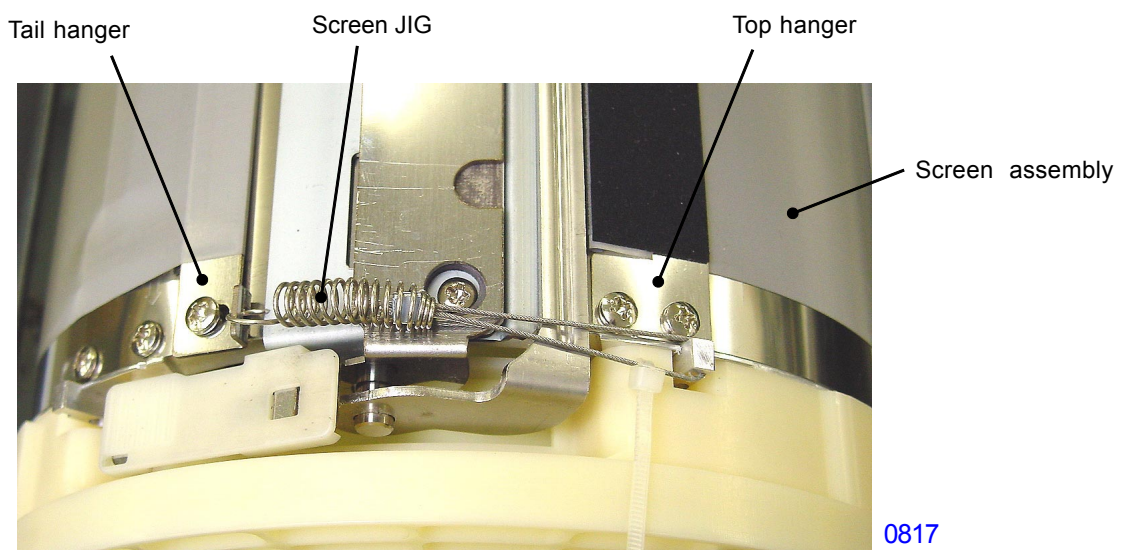
- (1) Mount and screw the top hanger on the print drum and wrap the screen around the drum. Then tentatively attach the screws on the tail hanger, very lightly.
- (2) Hook the screen jigs through the holes on the left and right of the tail hanger, pull the screen jig and hook the loop end of the jigs on the short pillars on the left and right drum flanges, located close to where the top hanger is. This is to tension the screen assembly tightly and evenly around the print drum.
- (3) With the screen assembly tightly wrapped around the drum by the screen jig, tighten the screws on the tail hanger.
- (4) Remove the screen jigs from the print drums once the screws on the tail hanger are tightened.



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< Screen JIG >

0816

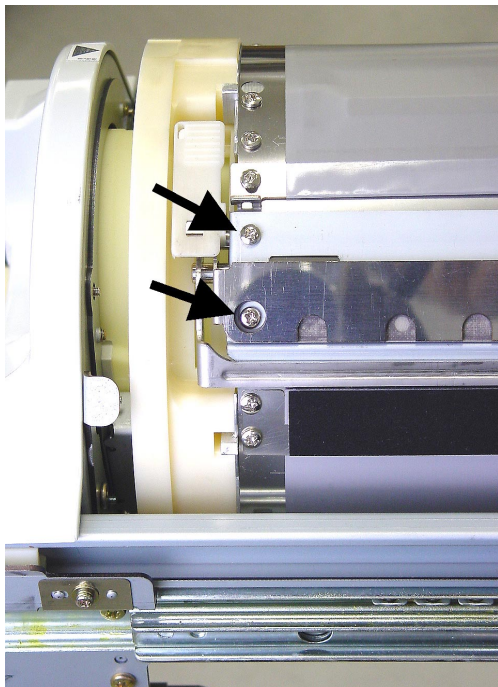
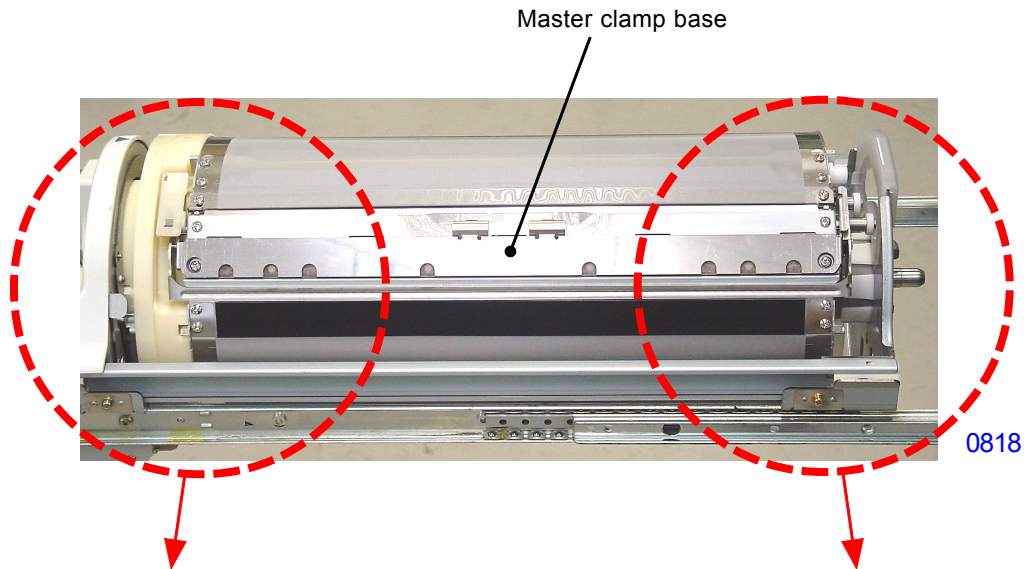
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0817

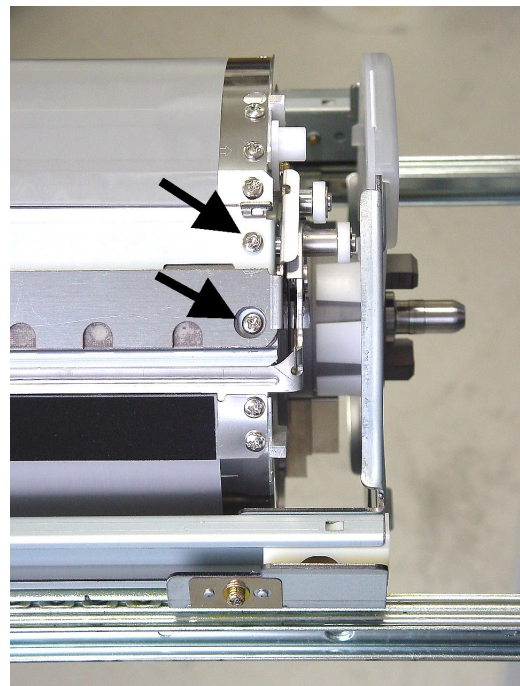
< FRONT >

3. Removing the Master Clamp Base Assembly

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove screws (M3x6: 4pcs) and detach the master clamp base assembly from the print drum.



0819



0820



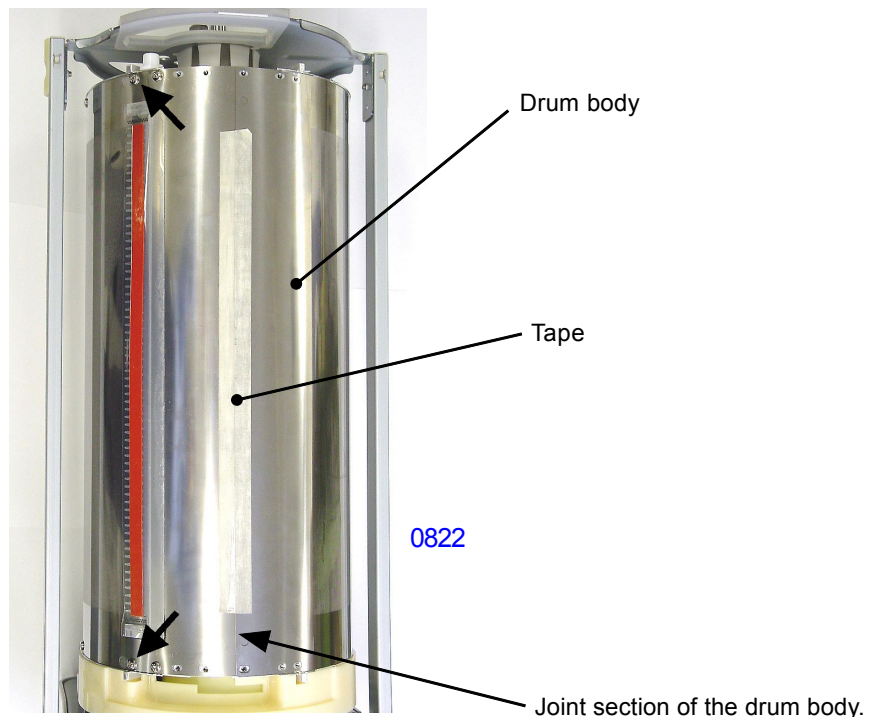
0821

< Master Clamp Base >

4. Removing the Drum Body

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
- (3) Loosen screws (M3x6: 2pcs) on the potbelly-shaped hole towards the tail end of the drum body (indicated by the arrow marks on the photograph), and remove all other remaining screws (M3x6: 10pcs).
- (4) Holding the drum body, so it does not pop open, peel off the tape which holds the top edge of the drum body onto the tail end of the drum body. (The tape will be reused in assembly.)
- (5) Slide the drum body and unhook the potbelly-shaped holes from the two loosened screws, and then remove the drum body.

- Precautions in assembly continues on next page -

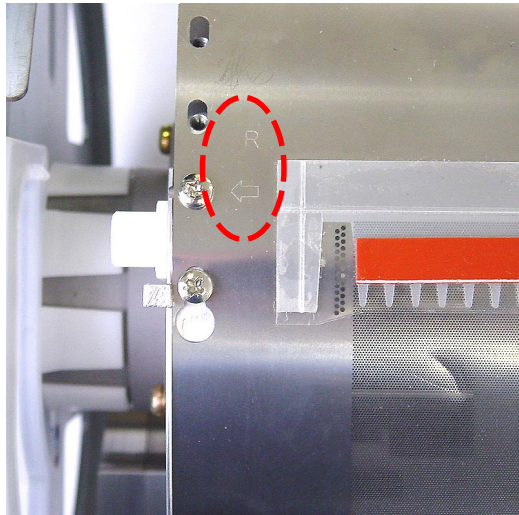


< Enlarged View >

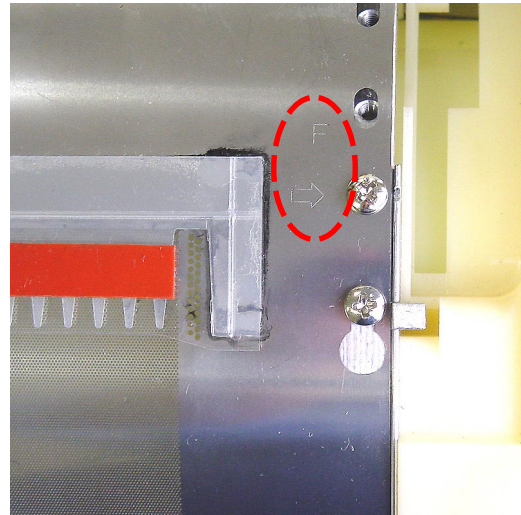
< Precautions in Reassembly >

- (1) On the outskirts of the tail end of the drum body, close to the drum flanges are marked with arrow marks and F & R imprints. The F imprint should face the flange-F, and R imprint should face the flange-R. With the drum body in this direction, hook the potbelly shaped holes of the drum body onto the two loosened existing screws on the drum flanges F and R.
- (2) Tentatively place one screw each on the screw holes which the arrow marks point to.

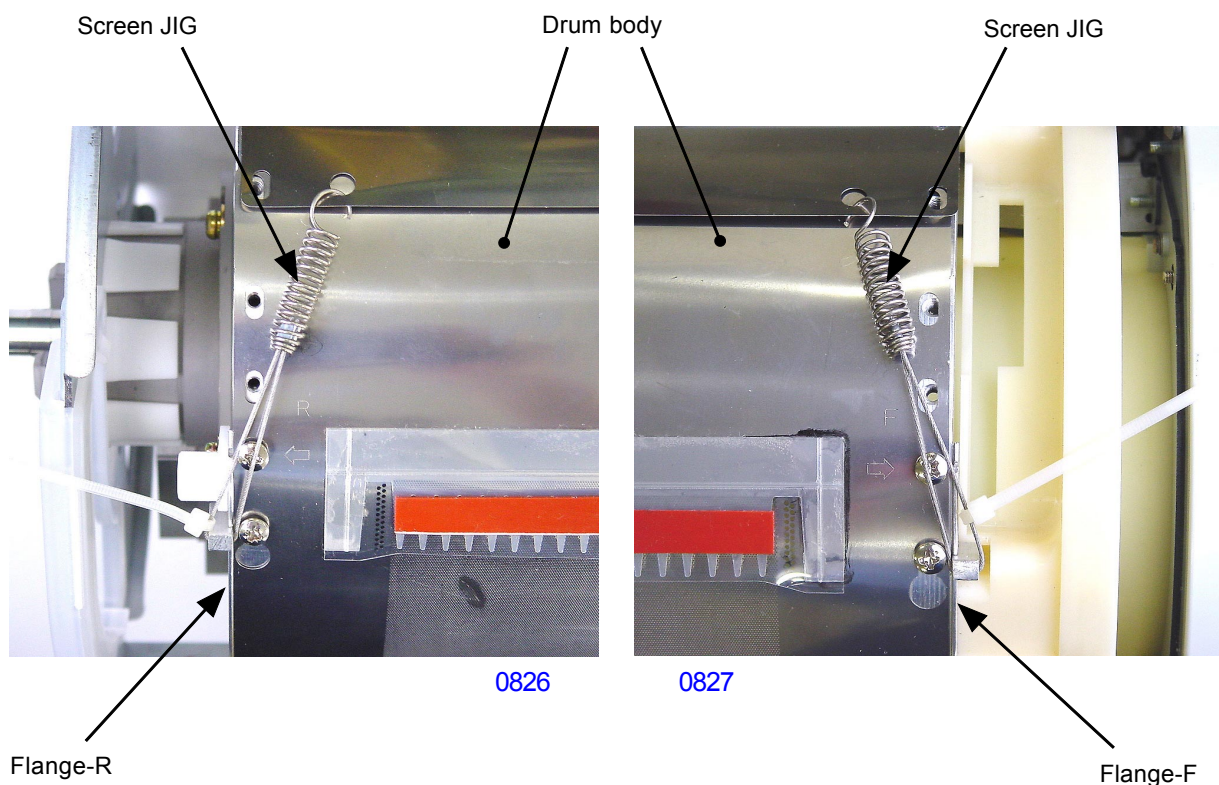
0824



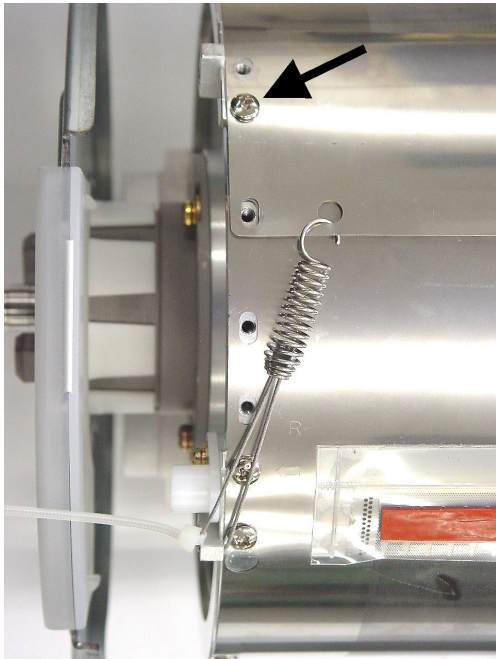
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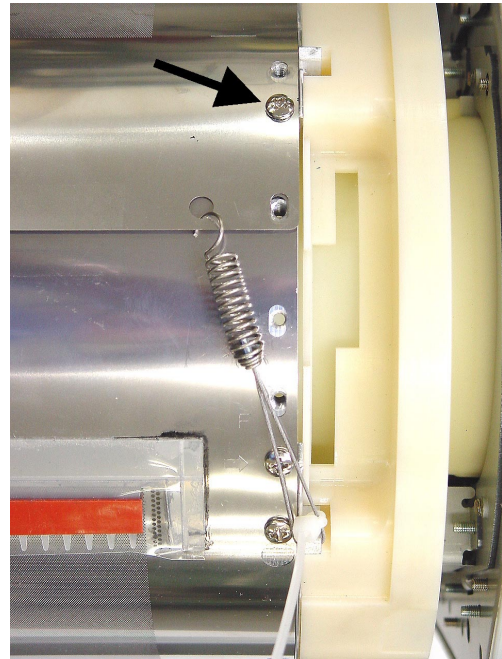
- (3) Hook the screen jigs into the holes on the drum body located at the inner edge of the top of the drum body, and hook the loop ends of the jig on the pillars on the drum flanges F and R.
- (4) Push the flange-F and flange-R tightly against the drum body, and tighten the two screws at the arrow mark which was previously tentatively mounted.
- (5) Likewise, push the flange-F and flange-R tightly against the drum body and tighten the two loose screws at the potbelly holes of the drum body, and then mount and tighten all the remaining screws around the drum body while pushing the flanges tightly against the drum body.



- (6) On the second screw holes from the top at the top end of the drum body, use screws (M3x6: 2pcs from another part of the drum) to tightly hold the drum body onto the drum flanges.

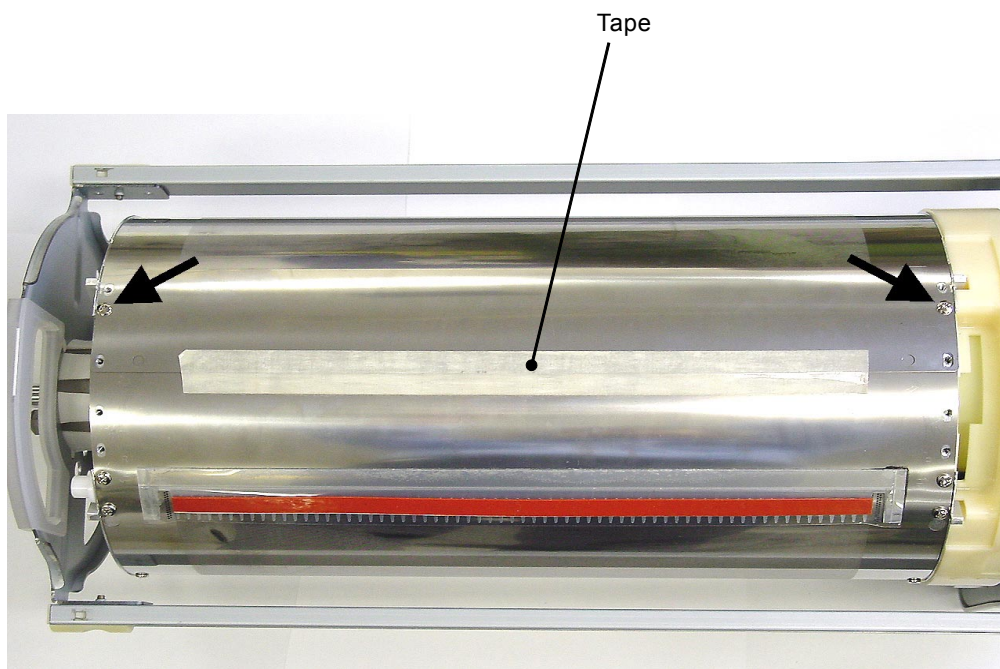


0828



0829

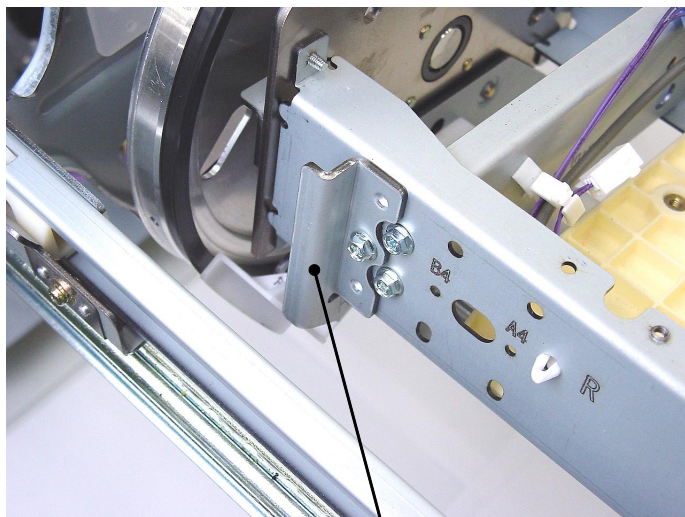
- (7) Remove the screen jigs off the print drum, and place the adhesive tape back on the joint section of the drum body while pushing down the joint section for a tight hold by the tape.
- (8) Remove the two screws used by above step (6).



0830

5. Removing the Ink Scraper Plate Assembly F & R

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
- (3) Remove screws (M3x8: 1pc each), and remove the scraper plate assembly F & R.



0831

Ink scraper assembly R



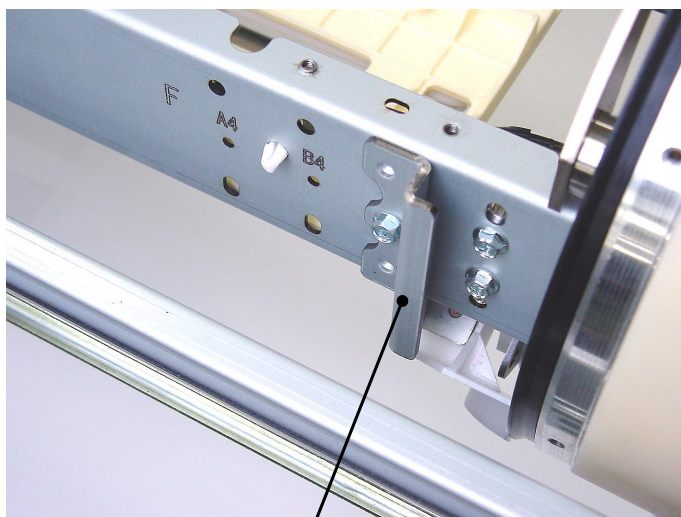
0832

< Ink scraper assembly R >



0834

< Ink scraper assembly F >

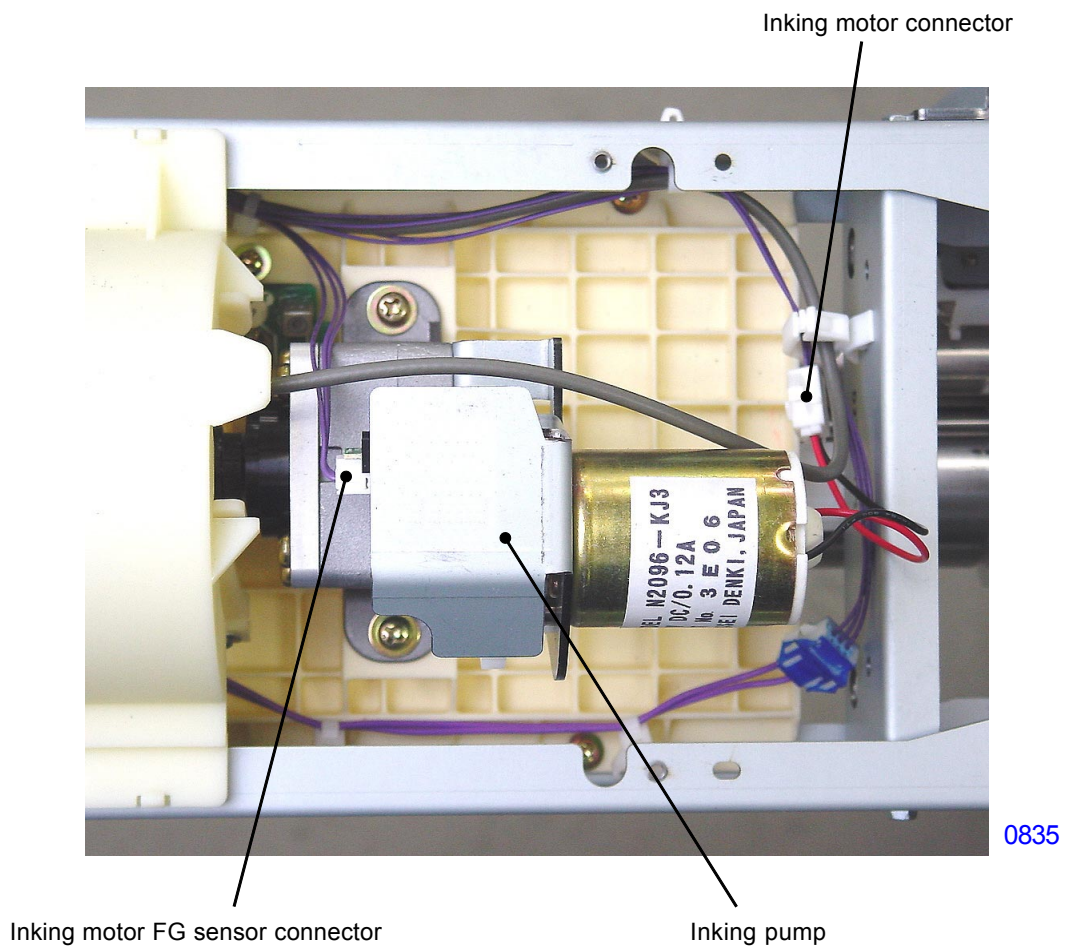


0833

Ink scraper assembly F

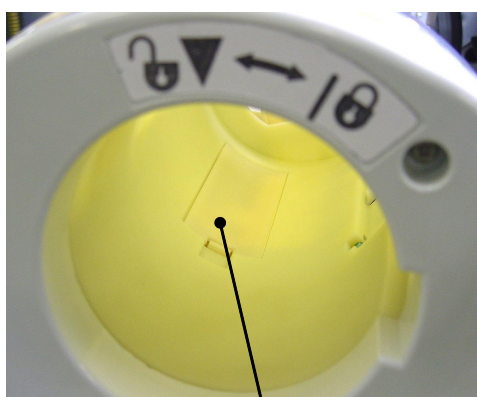
6. Removing the Ink Pump Assembly

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
- (3) Disconnect the inking motor FG sensor connector and the inking motor connector. Then remove screws (M4x8: 2pcs) and detach the ink pump assembly.



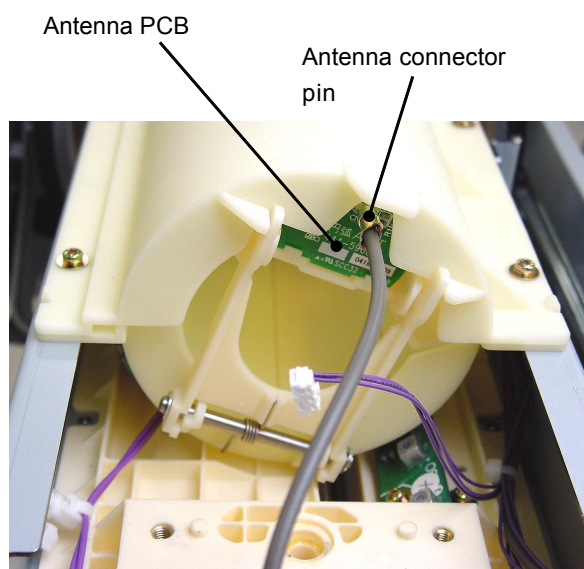
7. Removing the Ink Bottle Guide Assembly

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
- (3) Remove the inspection cap from the inside of the ink bottle guide.
- (4) Gently pull out the connector pin from the Antenna PCB. Then disconnect the ink bottle set switch connector and detach the two reusable bands from the print drum frame.
- (5) Remove screws(M3x8: 4pcs), and lift out the ink bottle guide assembly from the print drum after sliding it towards the center of the drum.

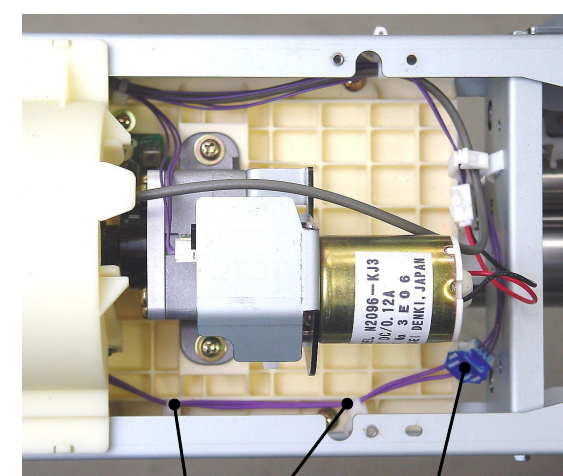


0836

Inspection cap



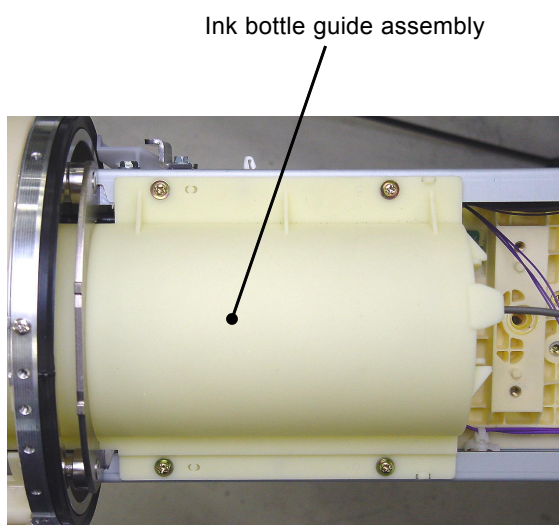
0837



0838

Reusable bands

Bottle set SW connector



0839

Ink bottle guide assembly

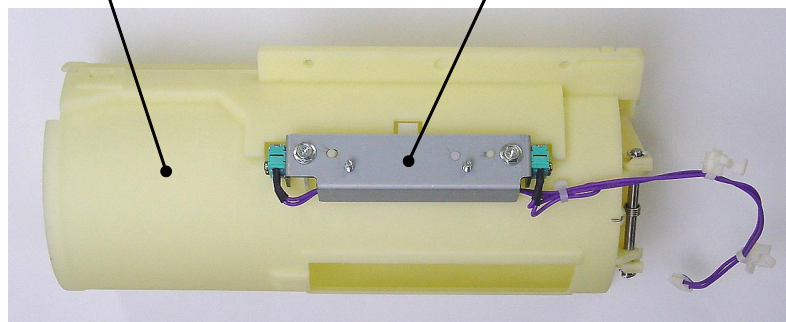
8. Removing the Ink Bottle Lock Assembly & Antenna PCB

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
 - Ink bottle guide assembly

Removing the Ink Bottle Lock Assembly

- (3) Remove screws (M3x8: 2pcs) and detach the ink bottle lock assembly from the ink bottle guide assembly.

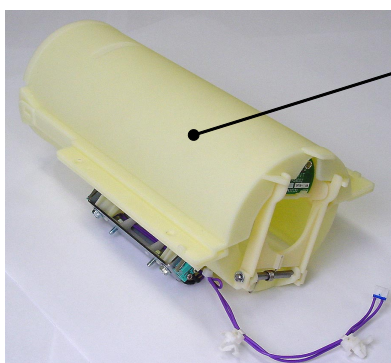
Ink bottle guide assembly Ink bottle lock assembly



0840

Removing the Antenna PCB

- (3) Separate the ink bottle guide (top) from the ink bottle guide (bottom) by unhooking the claws.
- (4) Remove the antenna PCB from the PCB holder.

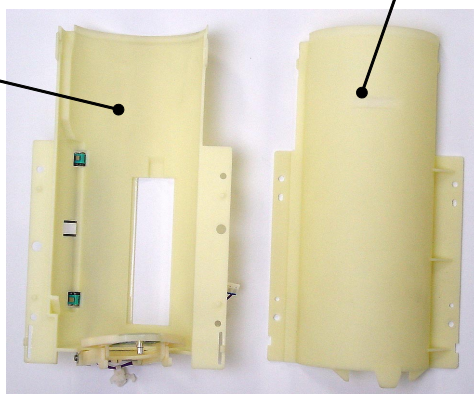


0841

Ink bottle guide assembly

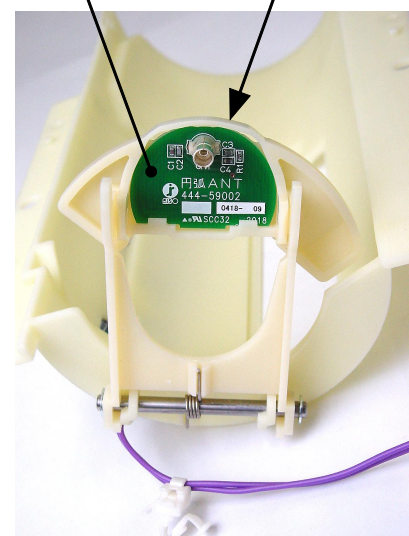
Ink bottle guide (top)

Ink bottle guide (bottom)



0843

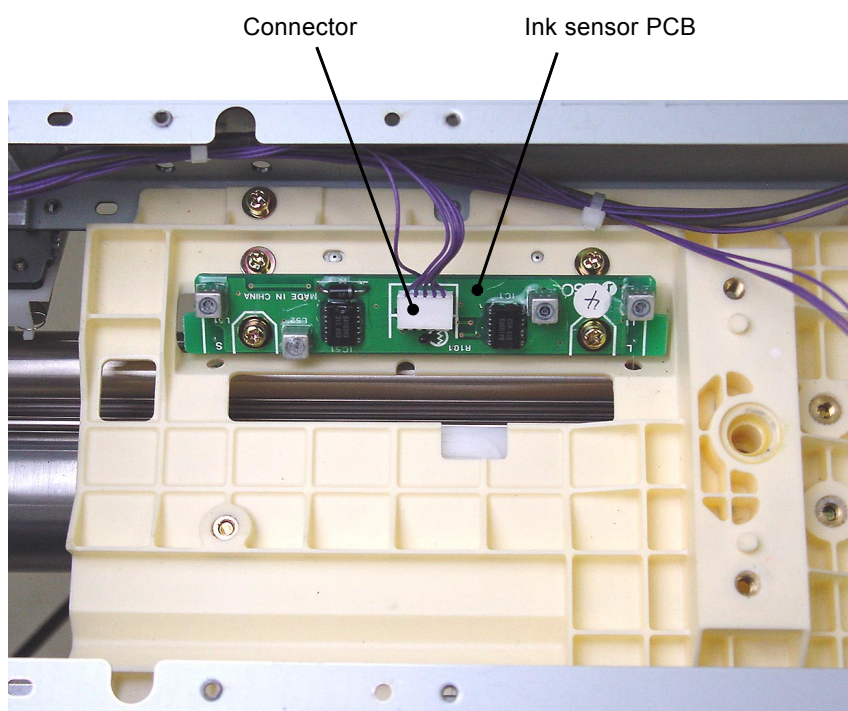
Antenna PCB PCB holder



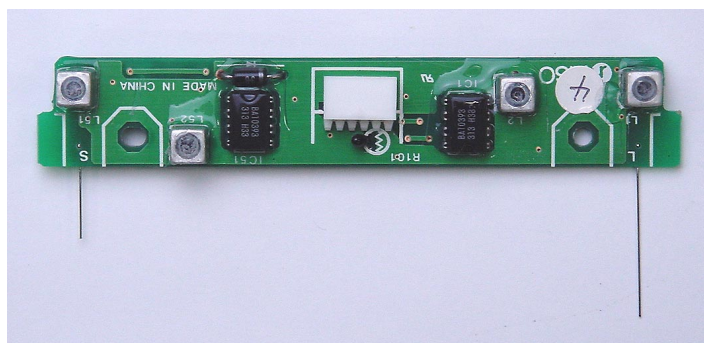
0842

9. Removing the Ink Sensor PCB

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Ink pump assembly
 - Ink bottle guide assembly
- (3) Disconnect the ink sensor PCB connector, remove screws (M3x8: 2pcs) and detach the ink sensor PCB.



0844

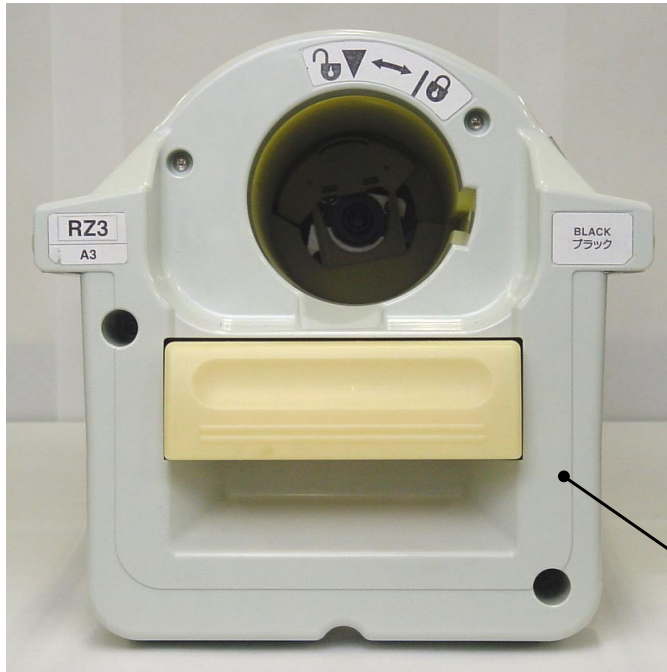


0845

< Ink Sensor PCB >

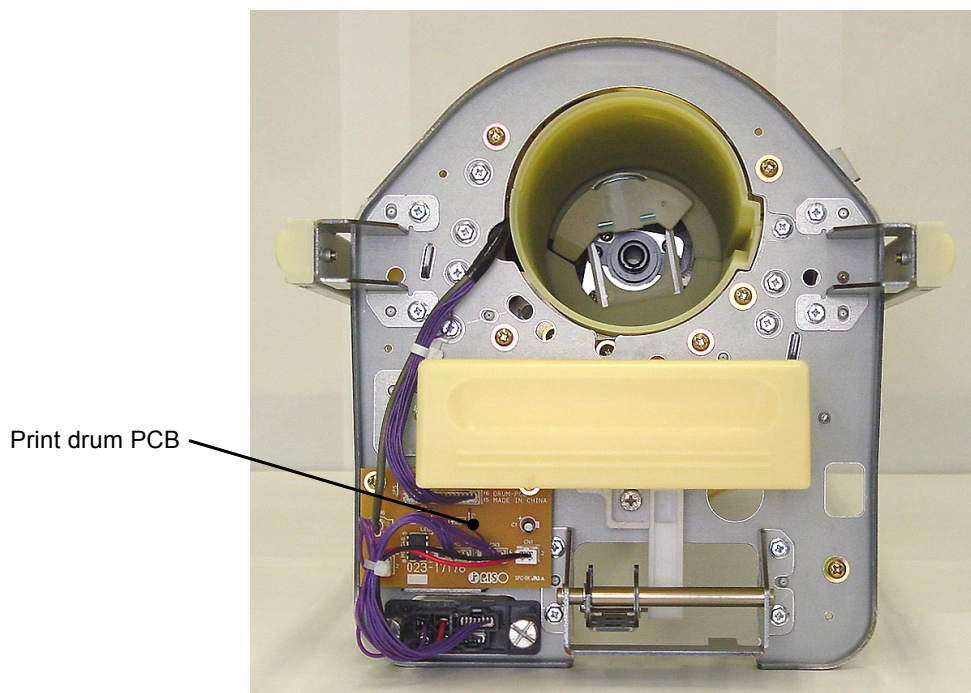
10. Removing the Print Drum PCB

- (1) Remove the print drum from the machine, and detach the drum cover from the drum by removing screws (M3x6: 4pcs).
- (2) Disconnect wire harness connectors (6 locations), remove screws (M3x8: 2pcs) and detach the print drum PCB.



Drum cover

0846

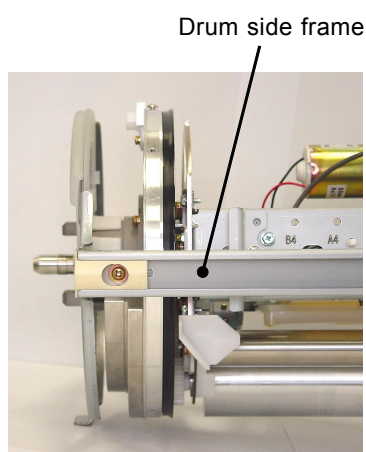
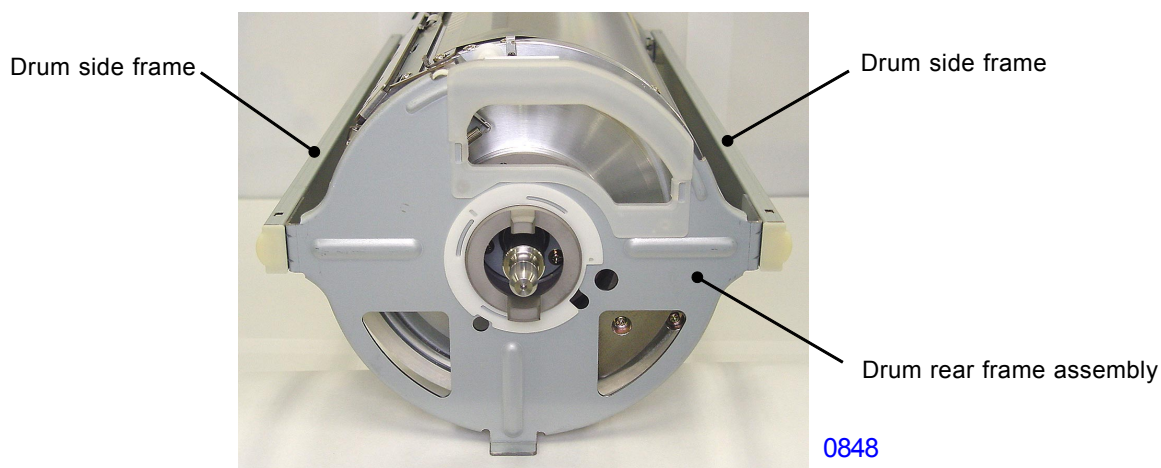


Print drum PCB

0847

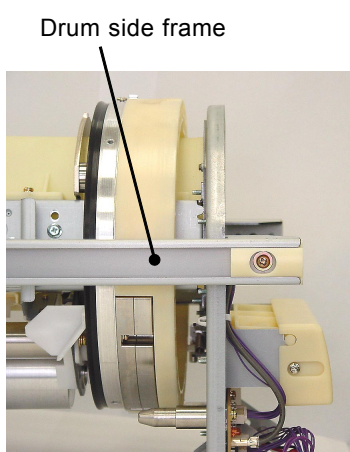
11. Removing the Drum Joint

- (1) Remove the print drum from the machine.
- (2) Detach both the left and right drum side frames by removing screws (M4x8: 2pcs each).
- (3) Gently pull out the drum rear frame assembly off the drum joint.
- (4) Remove screws (M4x8: 3pcs) and remove the drum joint.



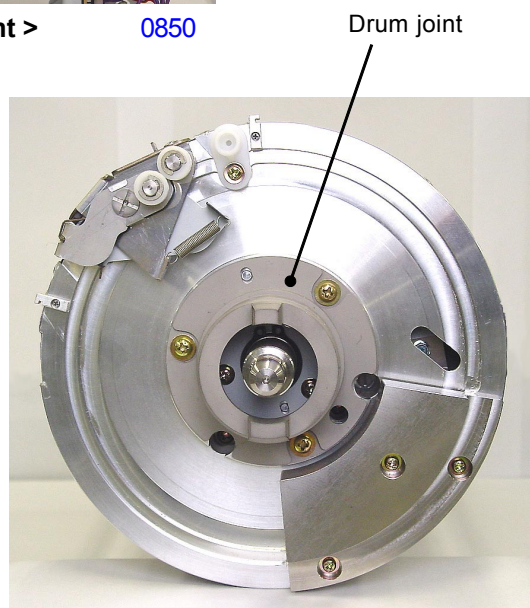
< Rear >

0849



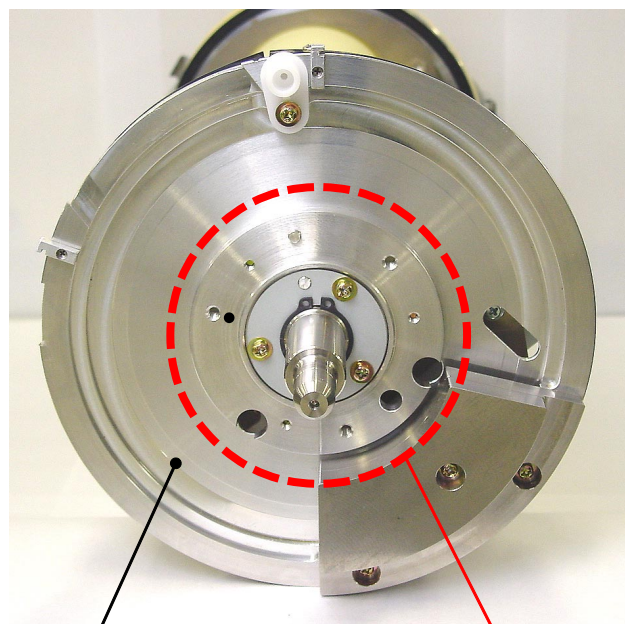
< Front >

0850



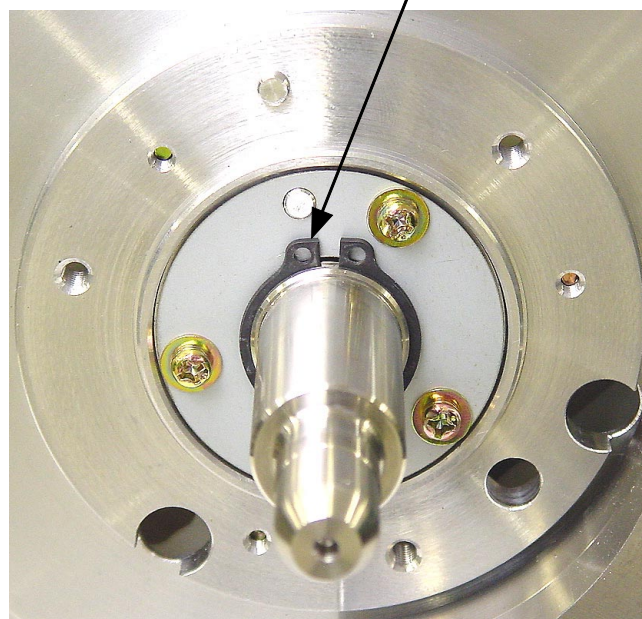
12. Removing the Flange-R

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Drum side frames (2pcs)
 - Drum rear frame assembly
 - Drum joint
- (3) Remove the C-ring and detach the flange-R.



Flange-R

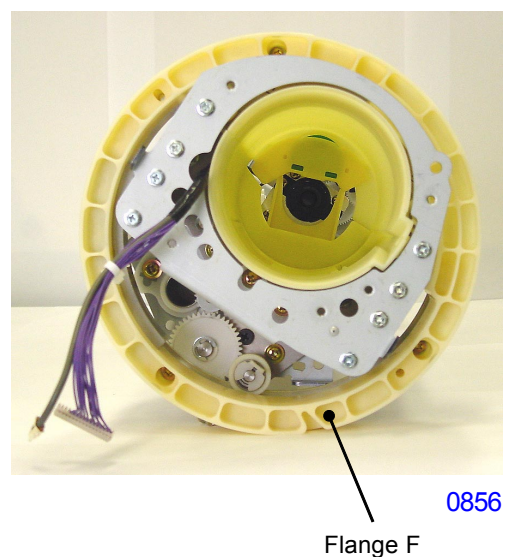
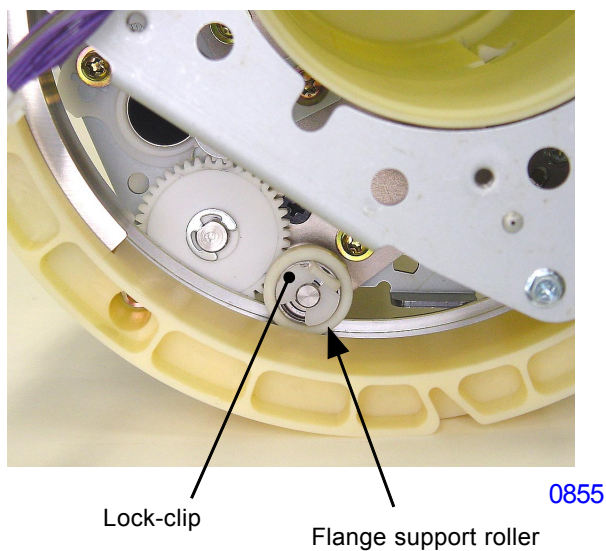
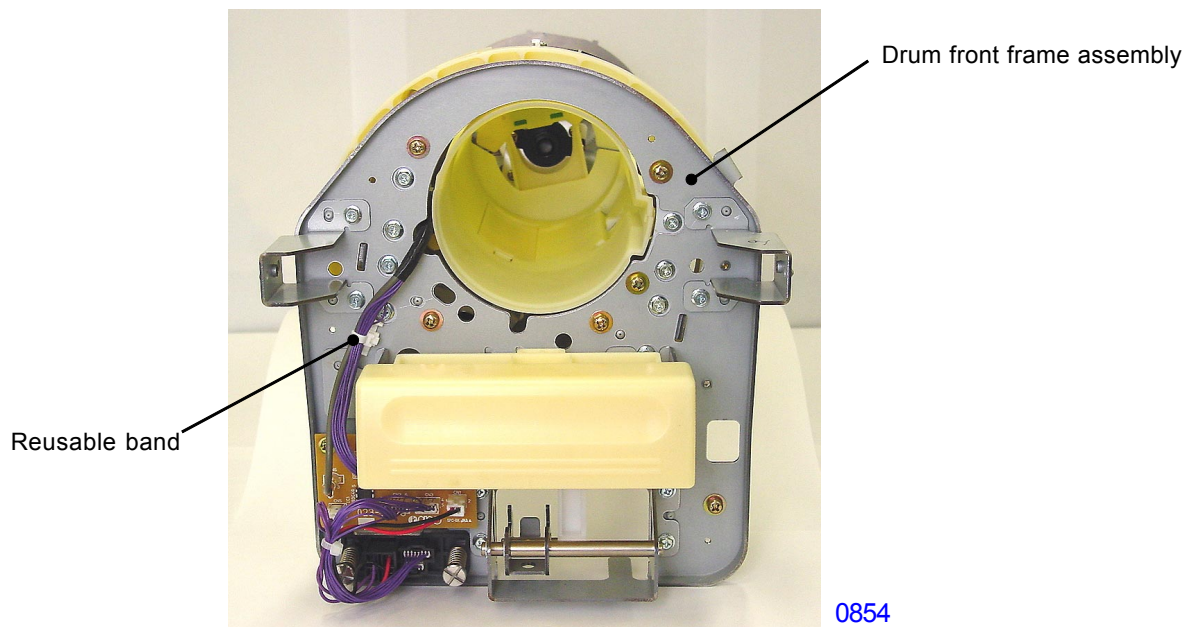
C-ring



manuals4you.com

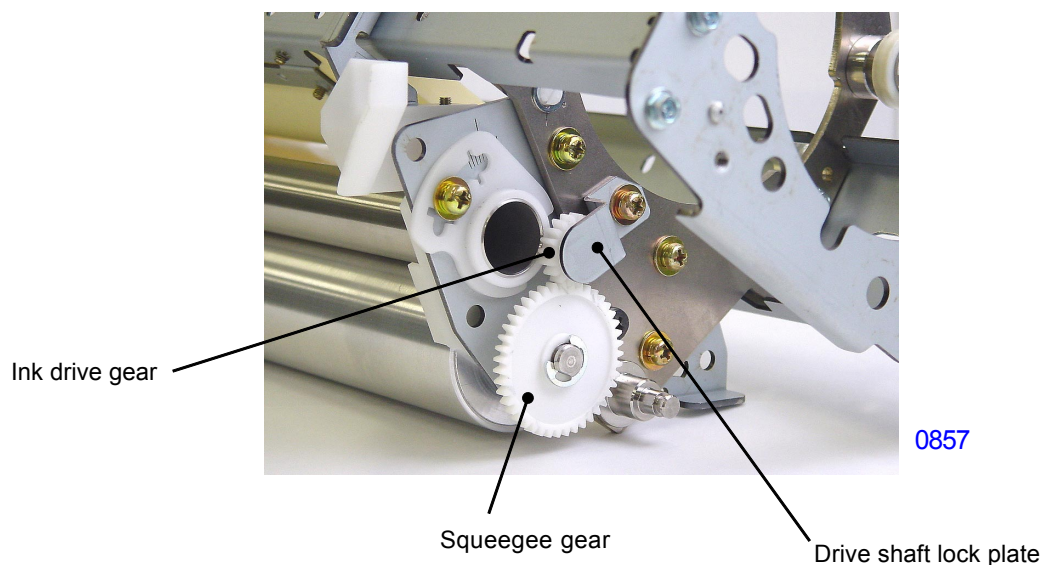
13. Removing the Flange-F

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
 - (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Drum side frames (2pcs)
 - (3) Disconnect two connectors from the print drum PCB, detach one reusable band from the drum front frame assembly and detach the drum front frame assembly by removing screws (M4x8: 5pcs).
 - (4) Remove the lock-clip on the flange support roller found at the bottom of the drum, and detach the roller.
 - (5) Detach the flange-F.
- * Remaining two flange support rollers can be removed after removing the flange-F.



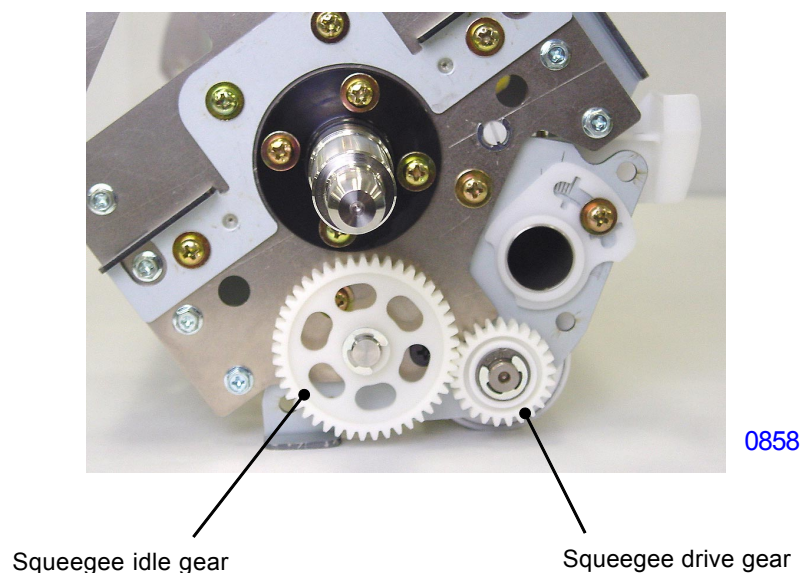
14. Removing the Squeegee Roller

- (1) Make a confidential master on the print drum and pull out the drum from the machine.
- (2) Remove the following components.
 - Screen assembly
 - Master clamp base assembly
 - Drum body
 - Drum cover
 - Drum side frames (2pcs)
 - Drum rear frame assembly
 - Drum joint
 - Flange-R
 - Drum front frame assembly
 - Flange-F
- (3) Detach the driven shaft support plate by removing a screw (M4x8: 1pc).
- (4) Remove the driven shaft gear.
- (5) Remove the squeegee gear by detaching an E-ring.



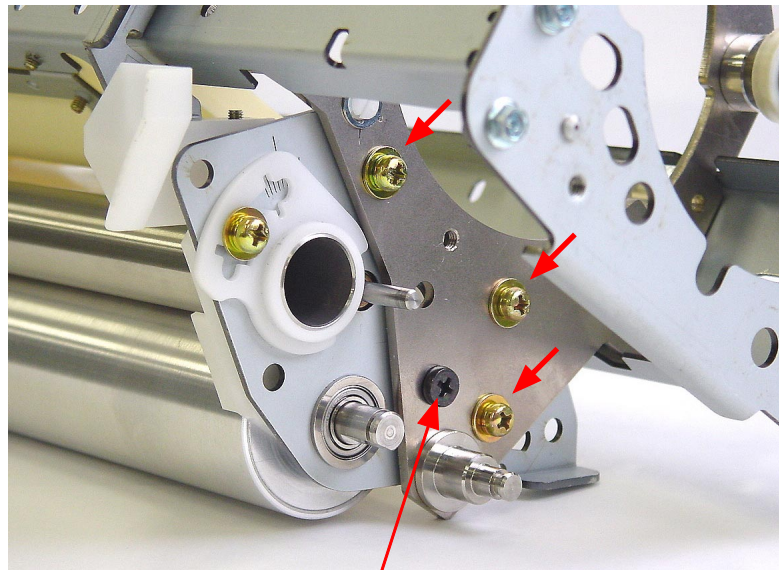
- (6) Remove the squeegee idle gear on the rear of the print drum by detaching an E-ring.
- (7) Also from the rear of the print drum, remove the squeegee drive gear by detaching an E-ring.

- continues on next page -



- (8) Remove screws (M4x8: 3pcs) and also the shoulder screw from the front of the print drum.

< FRONT >



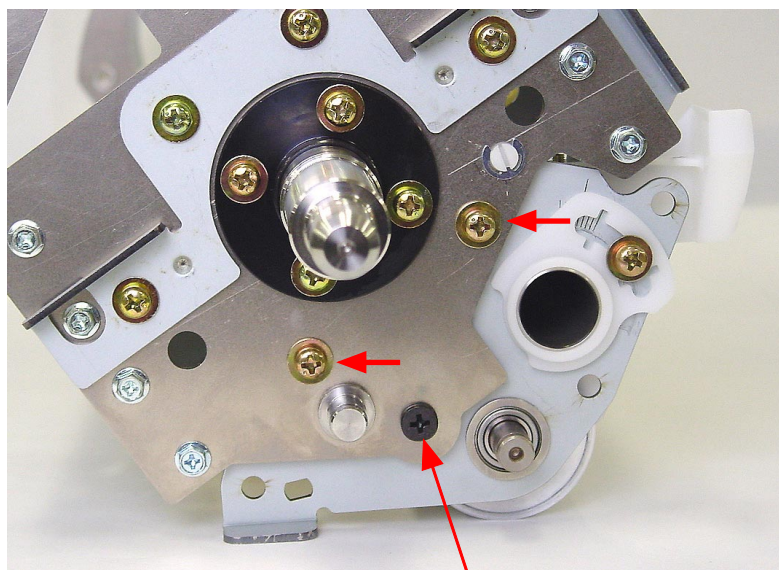
0859

Shoulder screw

- (9) Remove screws (M4x8: 2pcs) and also the shoulder screw from the rear of the print drum.

- continues on next page -

< REAR >



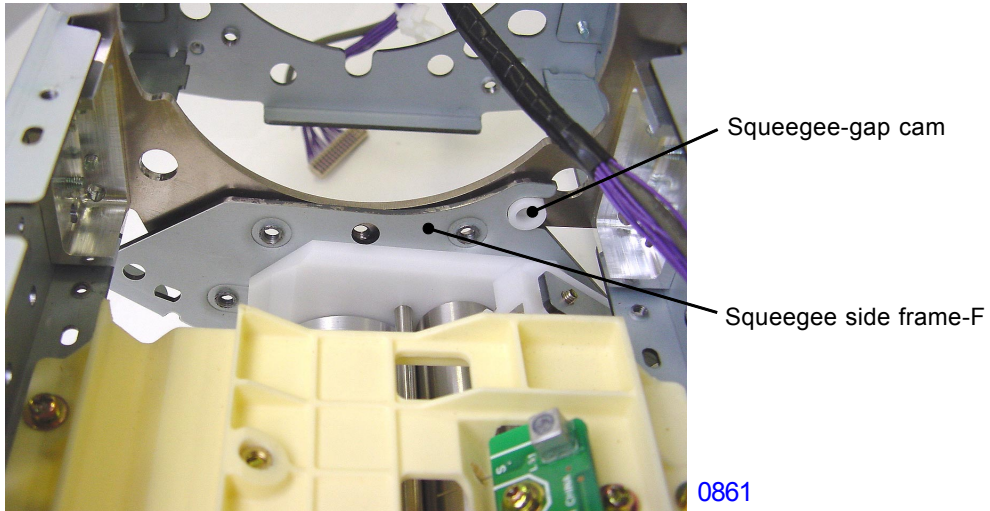
0860

Shoulder screw

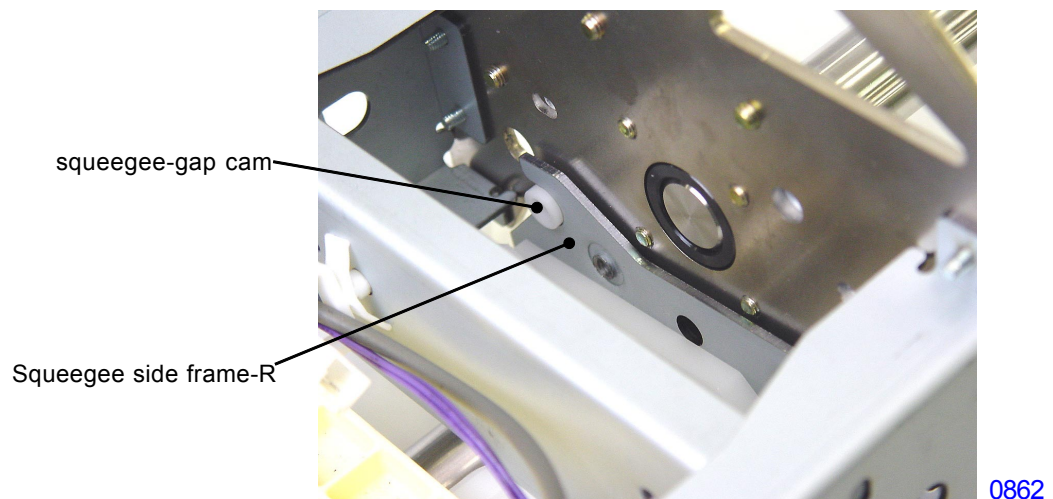
- (10) Detach the squeegee unit from the print drum by unhooking the hook portion on the squeegee unit from the plastic squeegee-gap cam in the front and rear of the print drum.

- continues on next page -

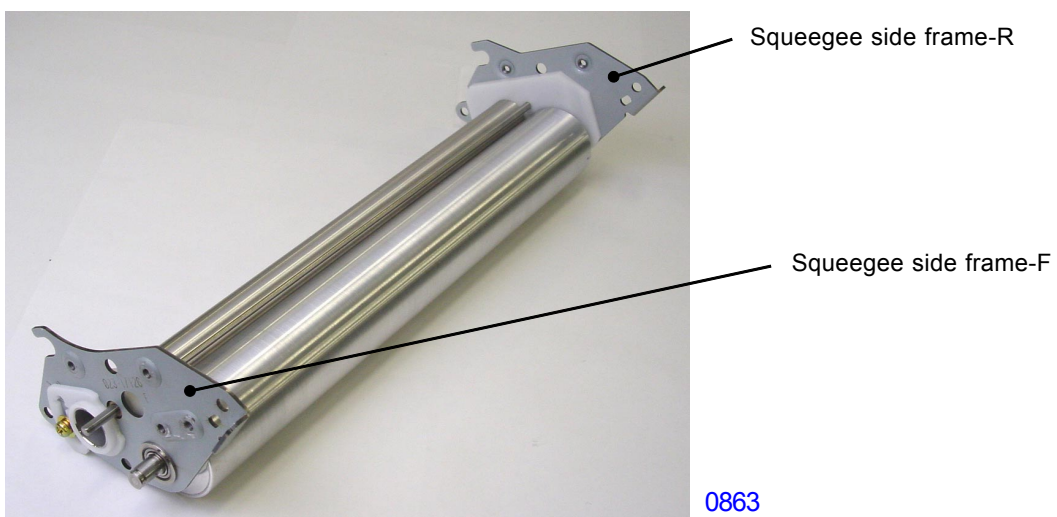
< FRONT >



< REAR >



< SQUEEGEE UNIT >

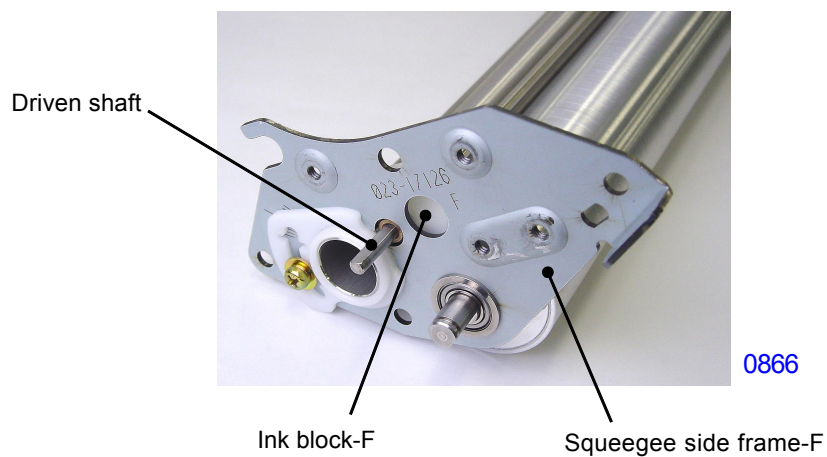
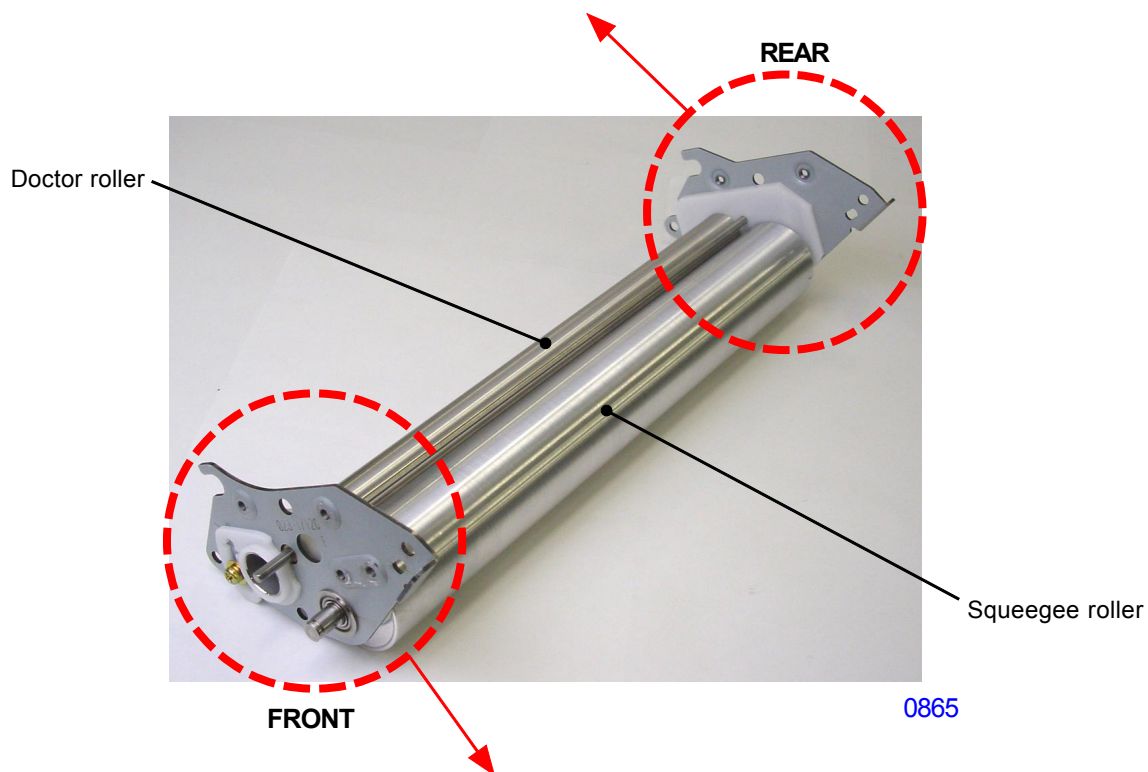
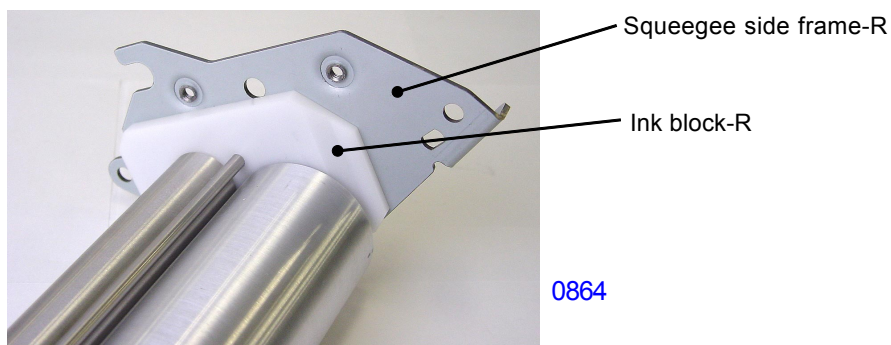


(11) Pull out the driven shaft from the squeegee unit.

* Be careful not to lose the bearing metal and O-ring as these will come off together with the shaft.

(12) Pull the squeegee side frames F & R off from the ends of the squeegee unit to free the squeegee roller.

* The doctor roller, pressed tightly fit into the ink block F & R, will also come loose.



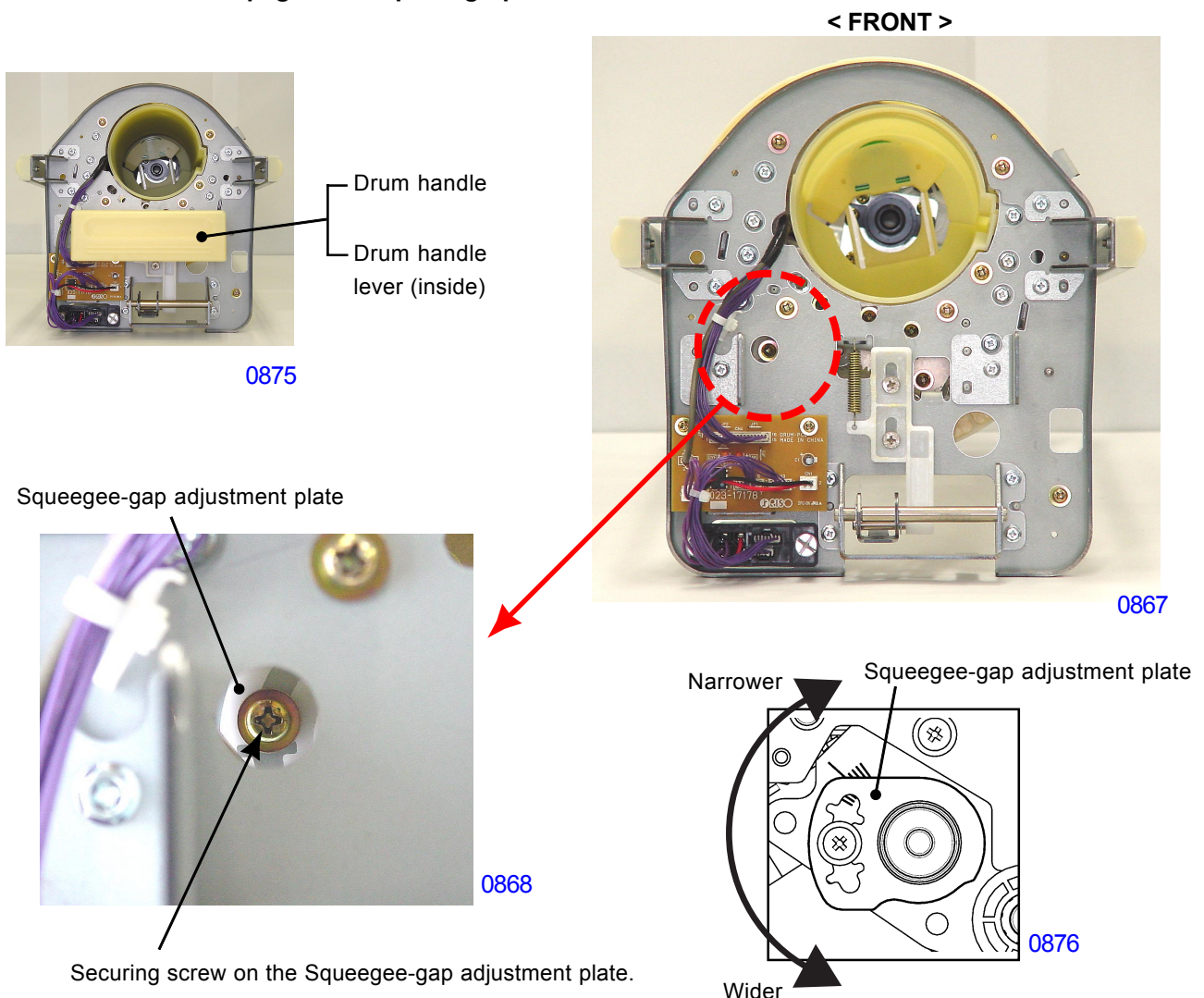
Adjustment

1. Squeegee Gap Adjustment

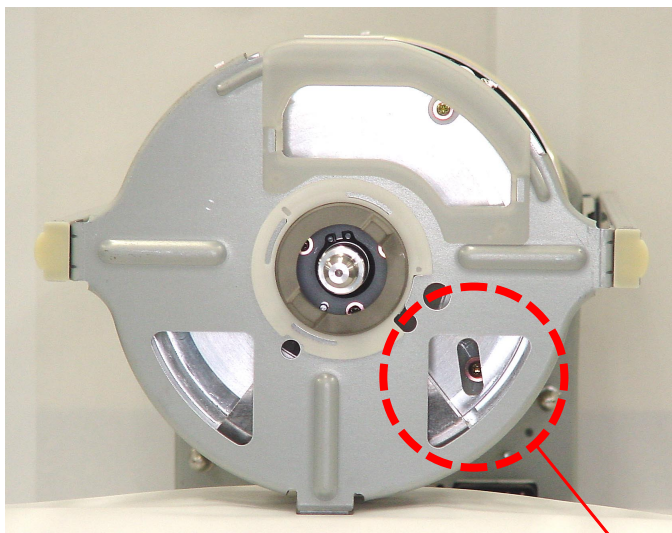
Checks and adjustment

- (1) Remove the print drum from the machine and detach following components off the print drum.
 - Screen assembly
 - Drum body
 - Drum cover
- (2) Detach the drum handle and drum handle lever. (Refer to the photograph below for the location).
- (3) Clean out the ink inside the squeegee unit.
- (4) Use a feeler gauge to check the gap between the squeegee roller and doctor roller.
 - * The gap should be 0.06mm plus/minus 0.02mm (0.04 to 0.08mm) for A3/Ledger drums.
 - * The gap should be 0.08mm plus/minus 0.02mm (0.06 to 0.10mm) for B4/Legal/A4/Letter drums.
- (5) If the gap is out of the specified range, loosen the securing screw on the squeegee-gap adjustment plate.
- (6) Insert a flat-head screw driver in the groove on the squeegee-gap adjustment plate and move the plate to adjust the squeegee gap.
- (7) Tighten the securing screw on the squeegee-gap adjustment plate to end the adjustment.

- Refer to the next page for the photograph of the rear side.



< REAR >

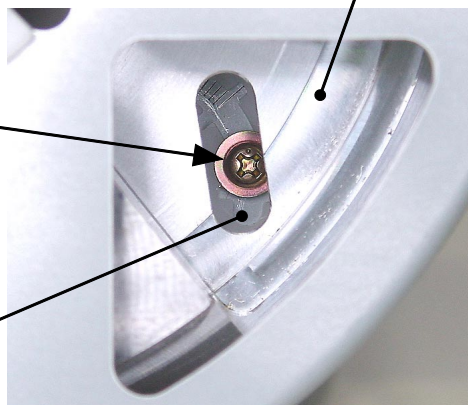


0869

Securing screw on the Squeegee-gap adjustment plate

Squeegee-gap adjustment plate

Flange-R



0870

Symptoms:

- (1) If the squeegee gap is too wide, too much ink is transferred onto the inner surface of the print drum and may result in ink leakage from the print drum. Other problems, such as the master slipping out from the clamp plate and horizontal line images may start to rip on the master.
- (2) If the squeegee gap is too narrow, not enough ink is transferred onto the inner surface of the print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the paper.

2. Squeegee Pressure Balance Adjustment

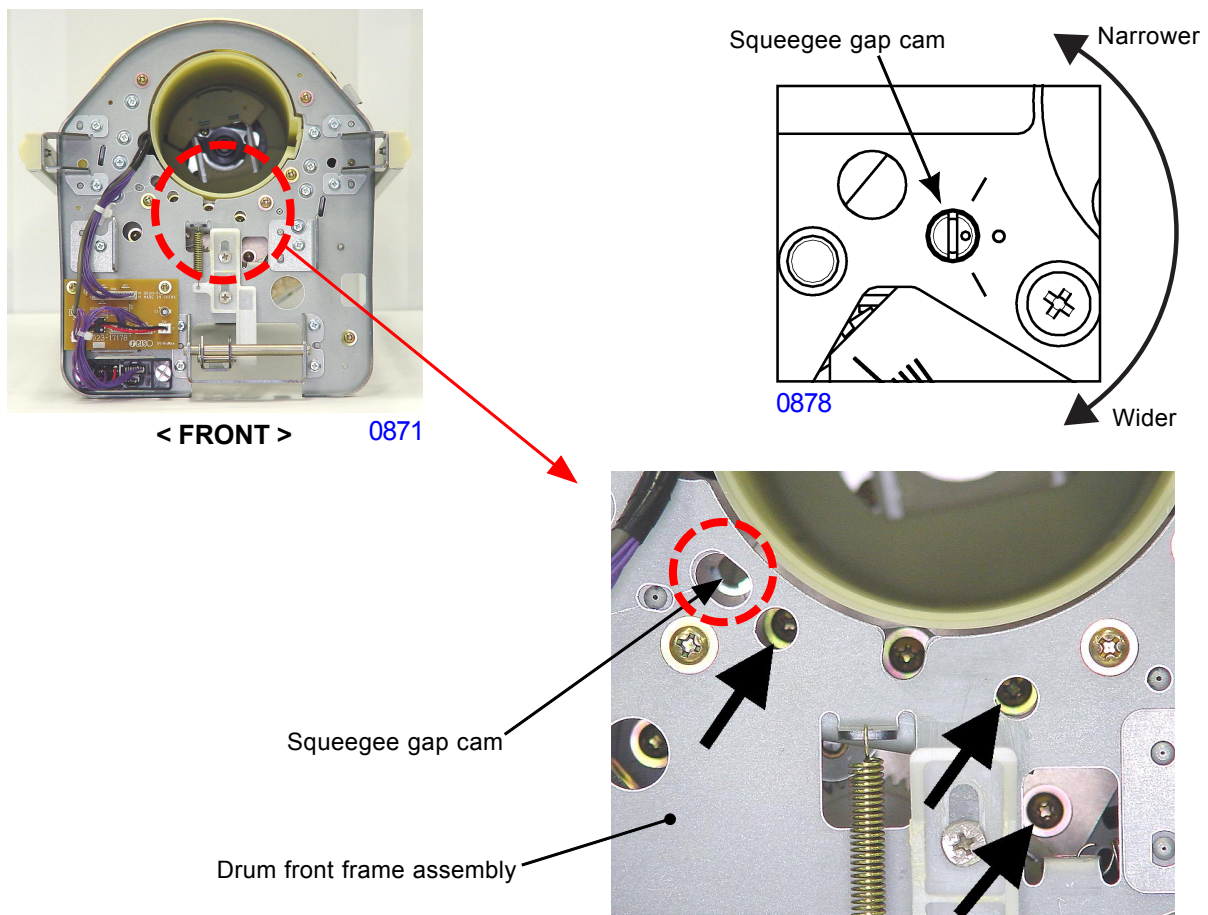
Checks and adjustment

- (1) Create a master using Test chart No.14 and make prints. Check the left and right of the prints to compare the print density and confirm that the density is even between the two sides.
- (2) Also check the squeegee pressure by pushing the drum body by fingers against the pressure roller. The gap between the drum body and the squeegee roller by the feel of the fingers should be equal throughout the length of the print drum. The gap should be within the following range, and if not, make an adjustment.
 - * 0.2mm plus/minus 0.05mm (0.15 to 0.25mm) for A3/Ledger drums.
 - * 0.3mm plus/minus 0.05mm (0.25 to 0.35mm) for B4/Legal/A4/Letter drums.

< Adjustment in the FRONT >

- (3) Remove the print drum from the machine, pull out the ink bottle and remove following components.
 - Drum cover
 - Drum handle
 - Drum handle lever
- (4) Loosen the three securing screws (indicated by the arrow marks on the photograph) on the squeegee side frame-F found through the holes on the drum front frame assembly.
- (5) Also from the hole on the drum front frame assembly, using a flat-head screwdriver, rotate the squeegee-gap cam until correct gap is obtained between the squeegee roller and drum body.
- (6) Tighten the three securing screws on the on the squeegee side frame-F to finish the adjustment on the front side of the print drum.

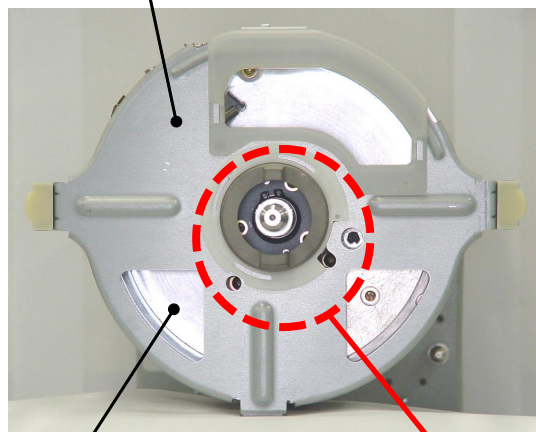
- the adjusting procedure for the rear side of the print drum continues on the next page -



< Adjustment in the REAR >

- (3) Remove the print drum from the machine.
- (4) Looking at the rear of the print drum, find two securing screws of the squeegee side frame-R (indicated by the arrow marks on the photograph) and loosen the two screws.
- (5) Insert a flat-head screwdriver through the opening on the drum rear frame assembly, rotate the squeegee-gap cam until correct gap is obtained between the squeegee roller and drum body.
- (6) Tighten the two securing screws on the on the squeegee side frame-R to finish the adjustment on the rear side of the print drum.

Drum rear frame assembly

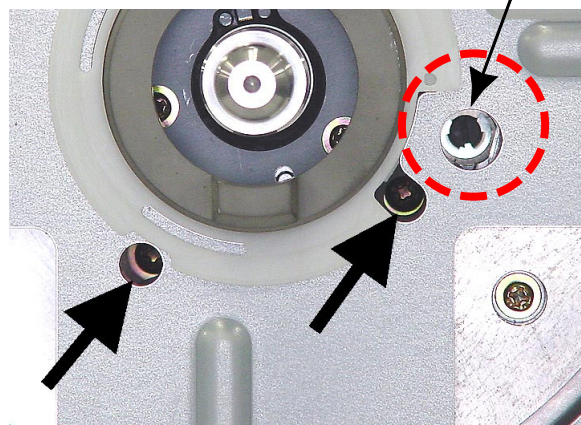


0873

< REAR >

Flange-R

Squeegee gap cam



0874

Symptoms

- (1) Difference in the squeegee pressure between the front and rear of the print drum will result in uneven density between the right and left of the prints.
- (2) If the squeegee pressure is too strong (the gap too small), too much ink is transferred onto the inner surface of the print drum and may result in ink leakage from the print drum. Other problems, such as the master slipping out from the clamp plate and horizontal line images may start to rip on the master.
- (3) If the squeegee pressure is too weak (the gap too large), not enough ink is transferred onto the inner surface of the print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the paper.

CHAPTER 9: CLAMP UNIT

Contents

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3. Drum Position-A Compensation	9-4
4. Clamp Plate Master Clamp Mechanism	9-5

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1. Removing the Clamp Unit	9-6
2. Removing the Clamp Motor	9-7
3. Removing the Clamp Sensors A & B	9-8

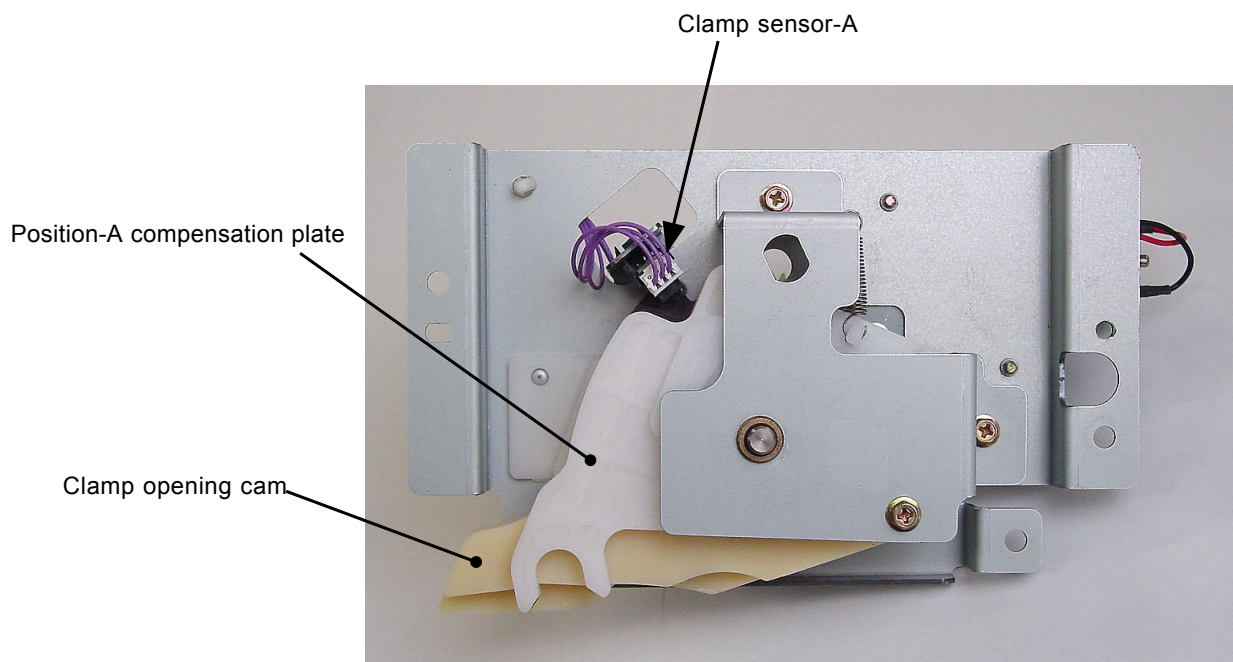
Mechanism

1. Clamp Unit Home Positioning Mechanism

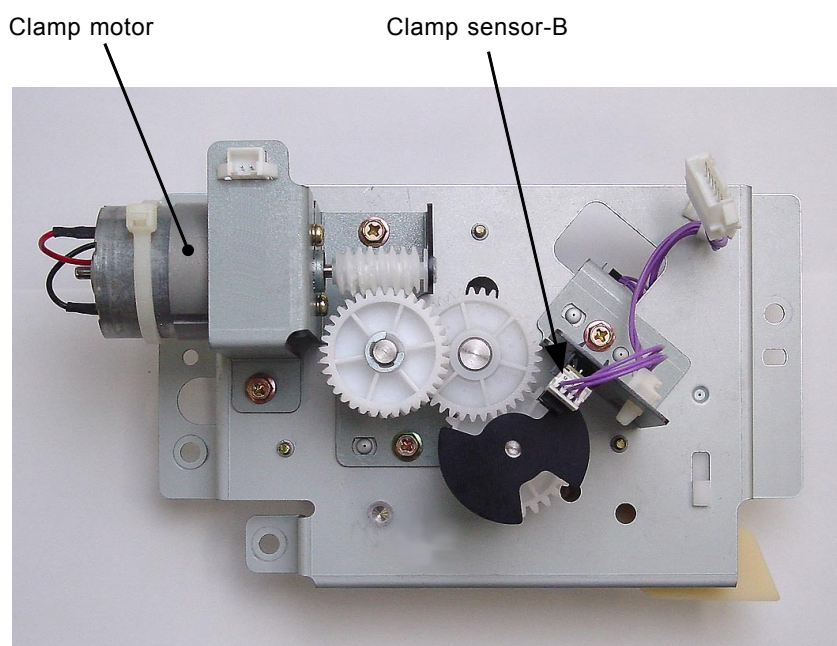
The clamp unit is checked if the unit is at home position or not each time the machine power is turned ON or the all-reset key is pressed.

The unit is judged to be at home position when the clamp sensor-A is detecting the clamp opening cam (the clamp opening cam is at the maximum up position) and the clamp sensor-B is not detecting the actuator disc.

If the unit is not at the home position when the power is turned ON or all-reset key is pressed, the clamp motor is activated to rotate the clamp cam is rotated to bring the position-A compensation plate and clamp opening cam to the home position.



0901

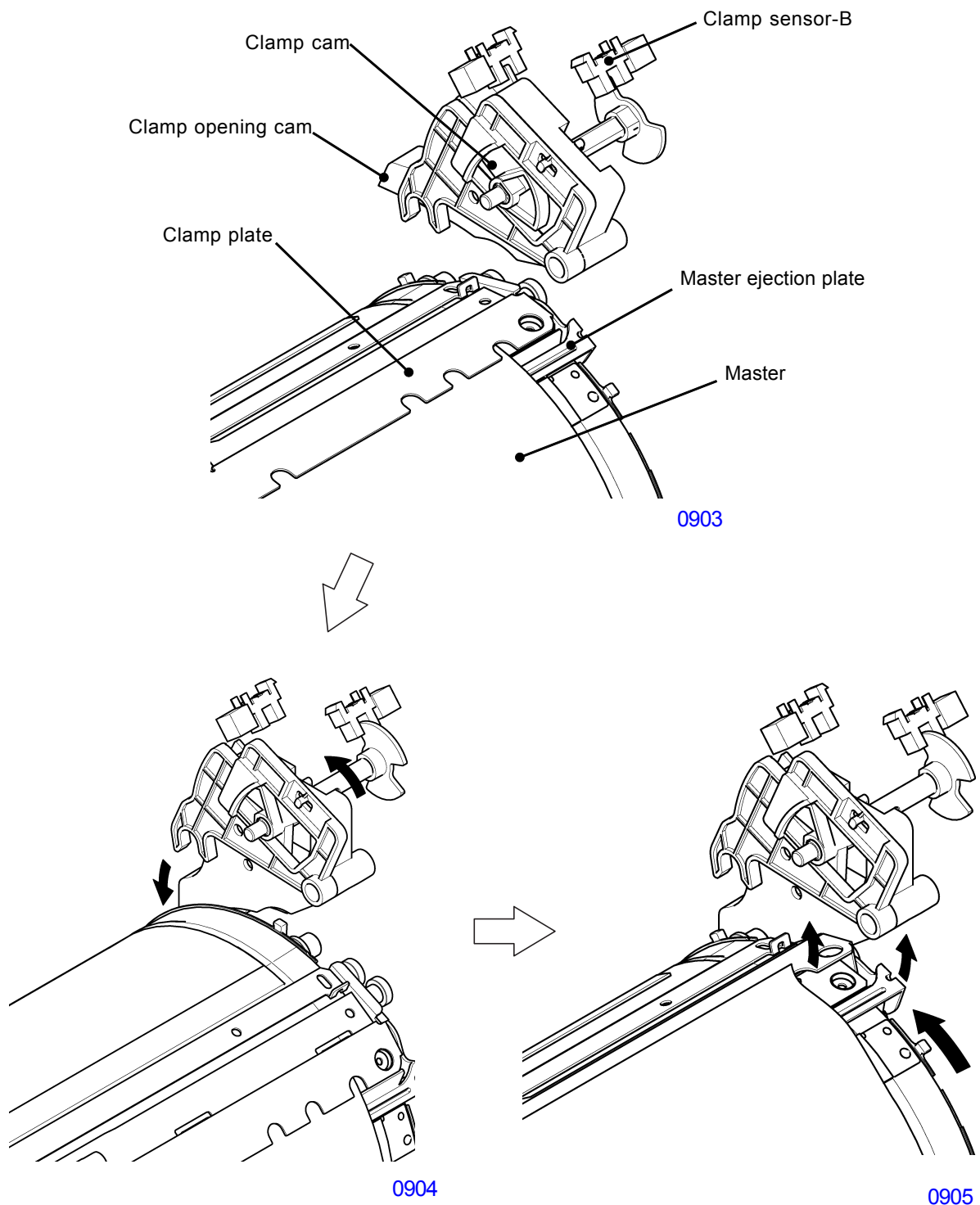


0902

2. Clamp Plate Opening Mechanism

When the START key is pressed for the master-making or confidential-master making, the print drum starts to rotate from its position-B. After the presence of the master on the print drum is checked and as the print drum returns to position-B, the print drum stops once and starts the clamp plate opening action. The clamp motor activates and rotates the clamp cam until the light path of the clamp sensor-B is blocked by the disc. This action brings the clamp opening cam down.

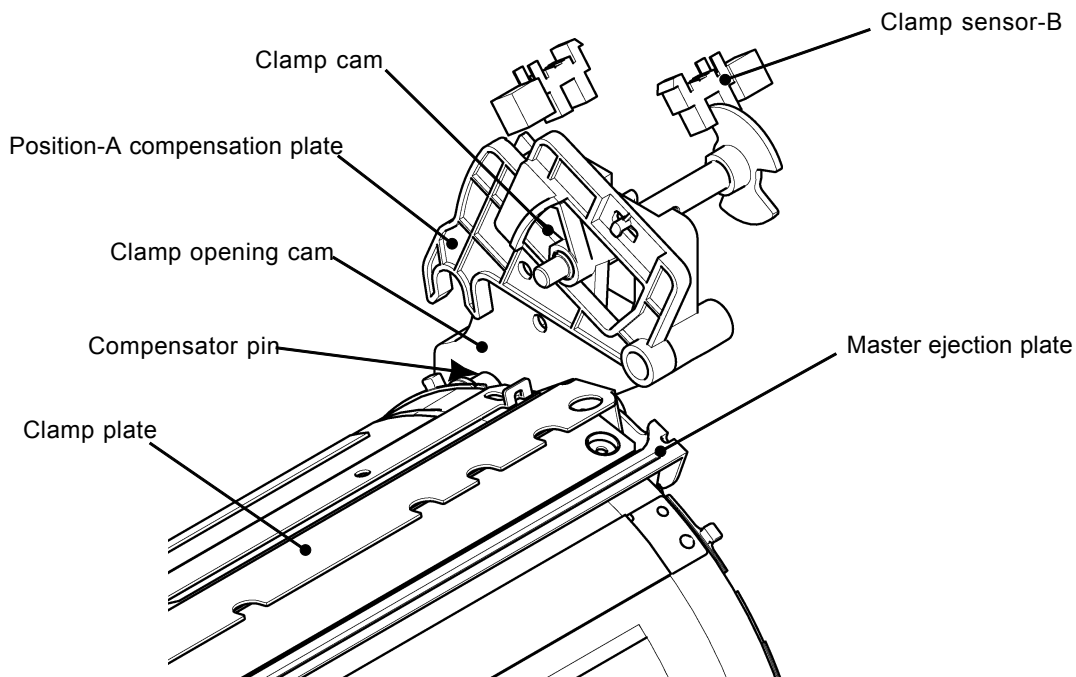
The print drum then rotates to start the master removal action. The clamp opening cam, at its lowered position, opens the clamp plate first, and then lifts the master ejection plate to eject the leading edge of the master out from under the clamp plate.



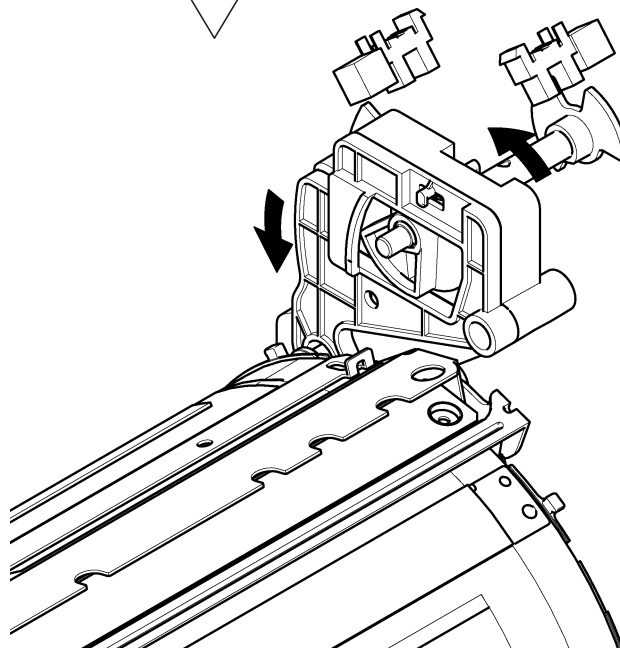
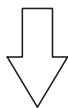
3. Drum Position-A Compensation

The print drum rotates to remove the master and as it comes back to position-A, the clamp opening cam at its lowered position opens the clamp plate and lifts up the ejection plate.

As the print drum stops at position-A, the clamp motor turns ON to rotate the clamp cam until the light path of the clamp sensor-B becomes unblocked by the disc. This action brings the position-A compensation plate down to catch the plastic compensator pin on the print drum to hold the print drum at position-A.



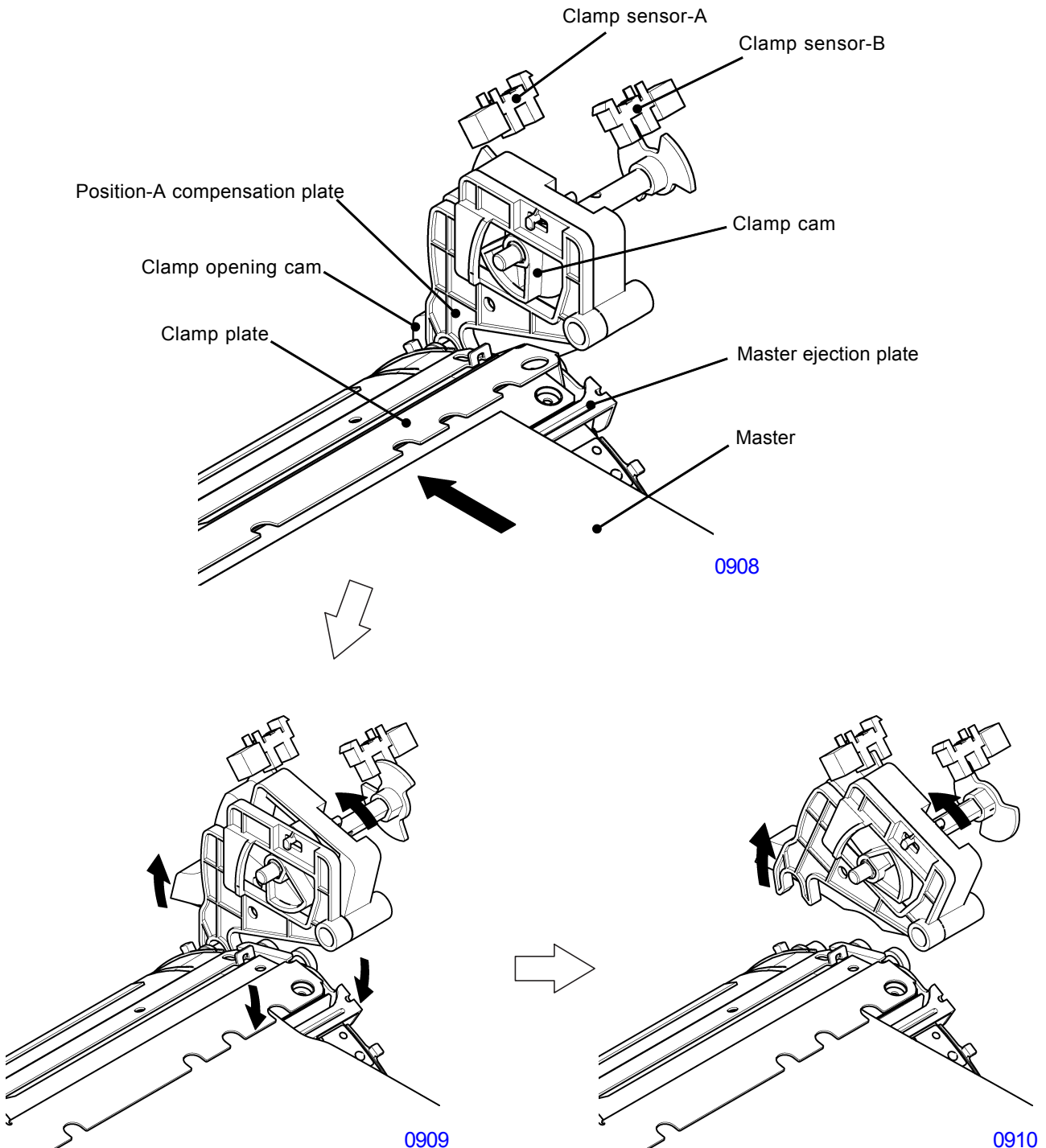
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0907

4. Clamp Plate Master Clamp Mechanism

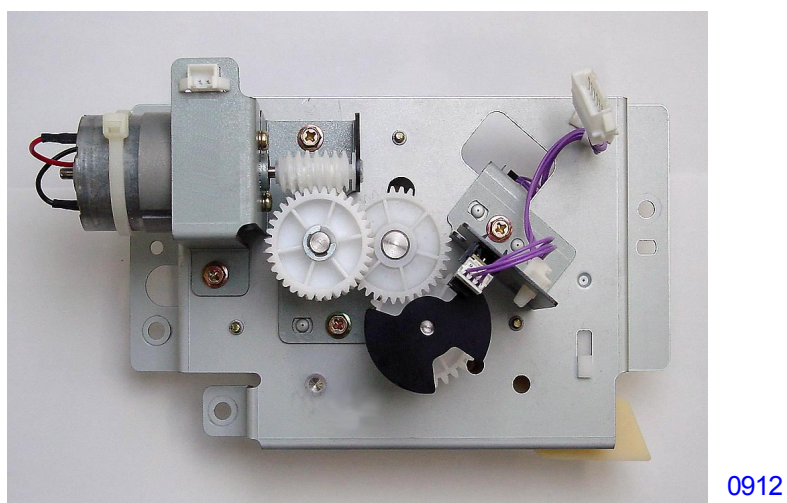
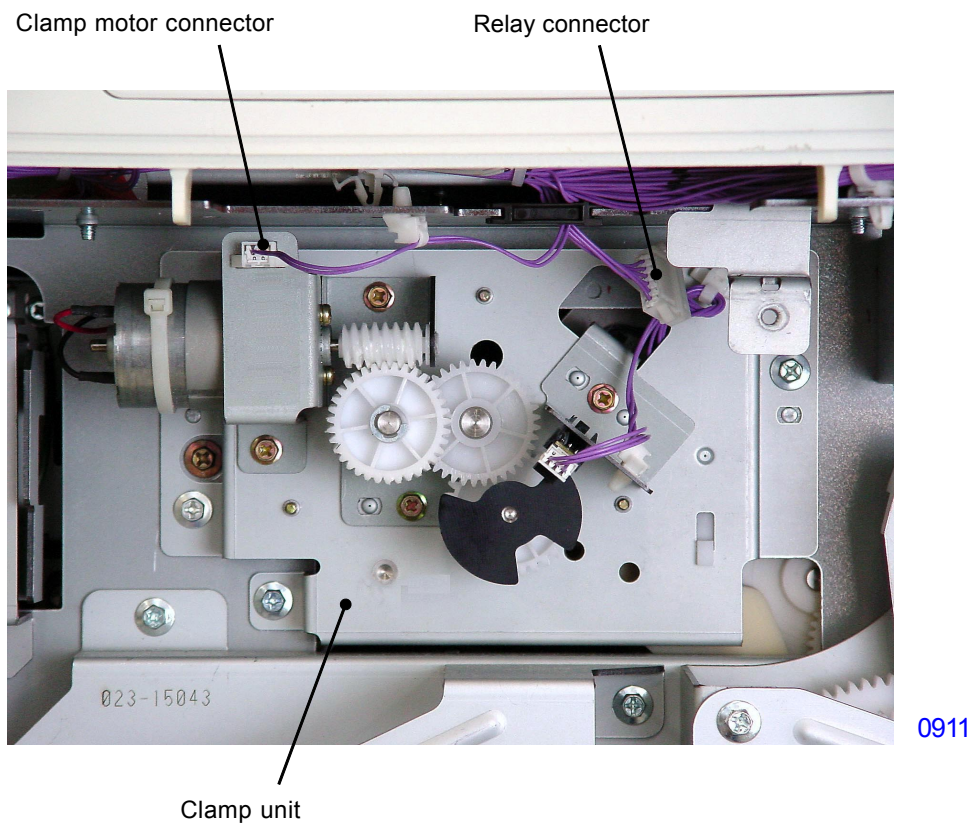
Once the load pulse motor on the master-making area feeds a set length of the master material onto the print drum, the clamp motor activates to rotate the clamp cam until the light path of the clamp sensor-A is blocked by the disc and the light path of the clamp sensor-B becomes unblocked. This action brings the clamp opening cam up and closes both the master ejection plate and the clamp plate to clamp the master material under the clamp plate. At this stage both the clamp opening cam and position-A compensation plate are brought up back to their home position.



Disassembly

1. Removing the Clamp Unit

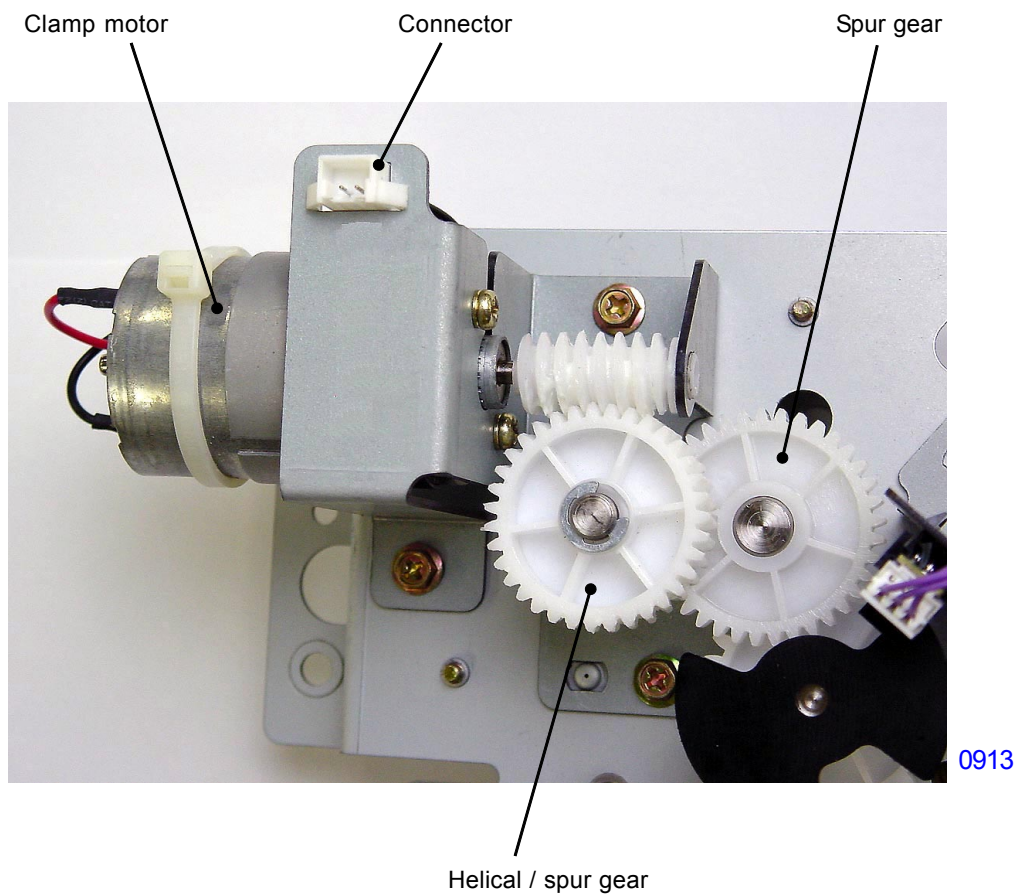
- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply PCB and mechanical control PCB.
- (2) Disconnect the clamp motor connector and relay connector. Remove screws (M4x8: 3pcs) and remove the clamp unit from the machine.



< Clamp Unit >

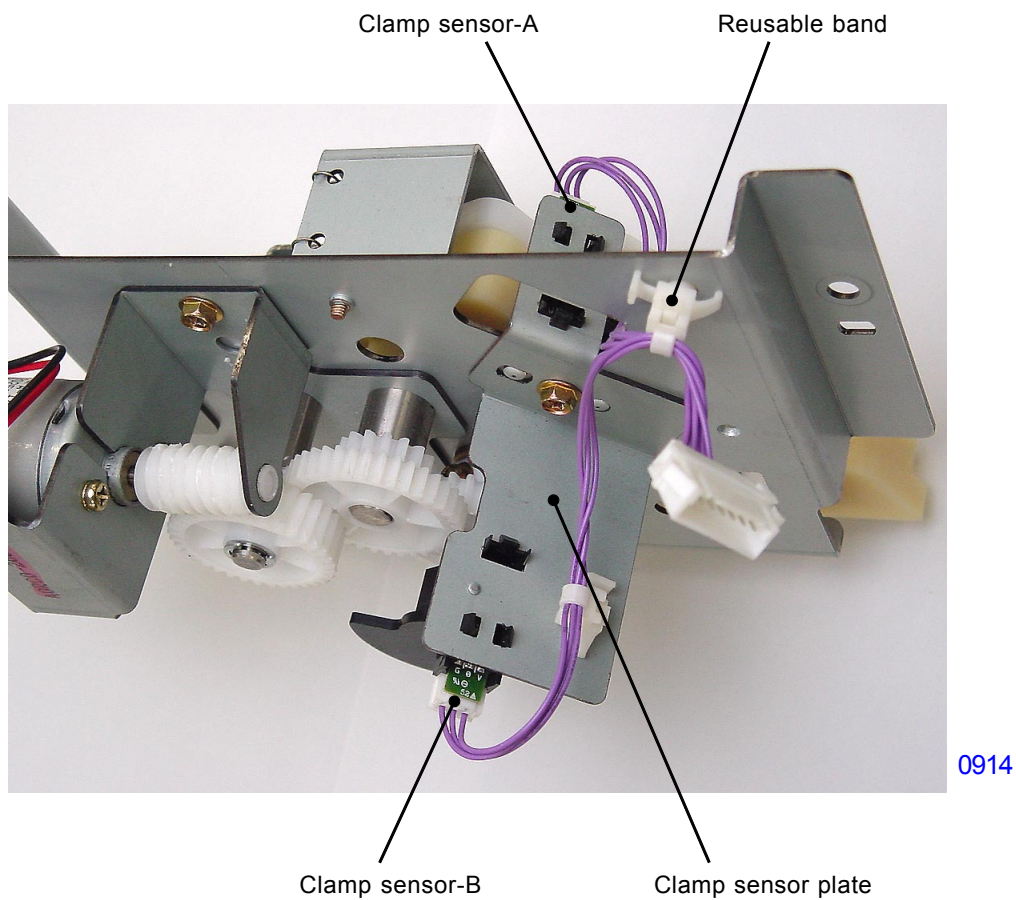
2. Removing the Clamp Motor

- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply PCB and mechanical control PCB.
- (2) Detach the clamp unit.
- (3) Detach the helical/spur gear and spur gear by removing an E-ring on the helical/spur gear.
- (4) Detach the clamp motor by unplugging the connector and removing the screws (M3x5: 2pcs).



3. Removing the Clamp Sensors A & B

- (1) Switch off the machine power, remove the rear cover, and swing open the PCB bracket of the power supply PCB and mechanical control PCB.
- (2) Detach the clamp unit.
- (3) Unplug the reusable band (1pc) from the clamp unit.
- (4) Remove a screw (M3x6: 1pc) and detach the clamp sensor plate with the two sensors attached.
- (5) Unplug the connectors and unhook and remove each sensor from the clamp sensor plate.



CHAPTER 10: MASTER REMOVAL SECTION

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Mechanism

1. Master Removal Mechanism

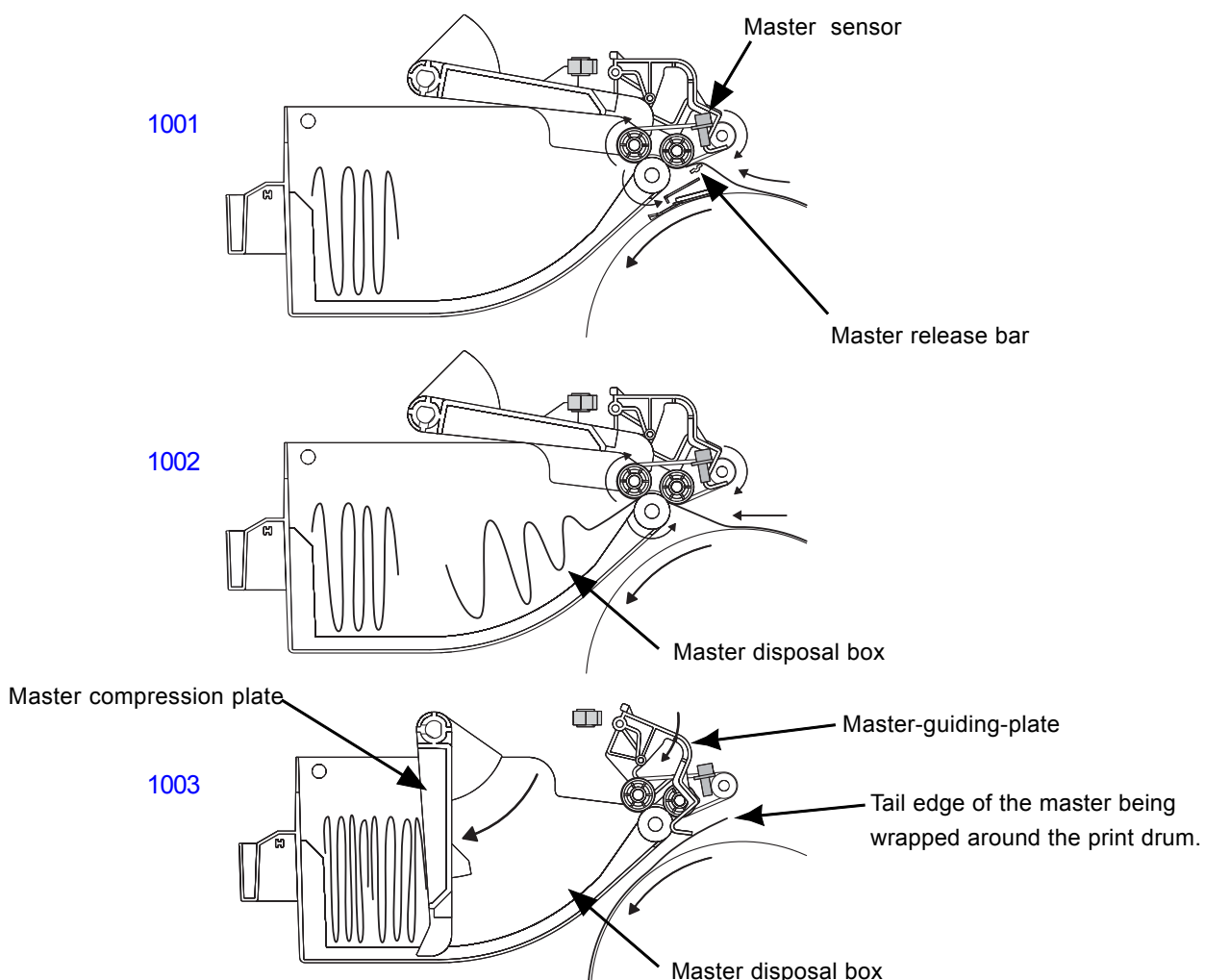
Master on the print drum is removed from the print drum and disposed in following sequence.

- (1) At the start of master removal, the master sensor checks for the presence of master on the print drum as the print drum makes one rotation.
- (2) After the print drum returns to Position-B, the clamp unit operates to bring the clamp opening cam down. The print drum rotates to position-A and both the clamp plate and the master release bar opens up to release the master out from the clamp plate of the print drum. The print drum does not stop at position-A, but continues its rotation.
- (3) The master removal roller rotates and catches the leading edge of the master and pulls the master away from the print drum as the print drum continues to rotate.
- (4) As the whole length of the removed master enters into the master disposal box, the master compressing plate pushes the removed master deep into the master disposal box.

* Above step-(1) is made only when the machine does not have the memory of the master on the drum.

* Even with no master is found on the drum, the master removal action takes place, except that the master removal sensor detection is not functional.

* Both the master compressing action and master loading action takes place at the same time, with the master-guiding-plate in its lowered position. The master-guiding -plate in this lowered position prevents the tail edge of the master being loaded on the print drum from touching the master removal rollers and getting the ink transferred.

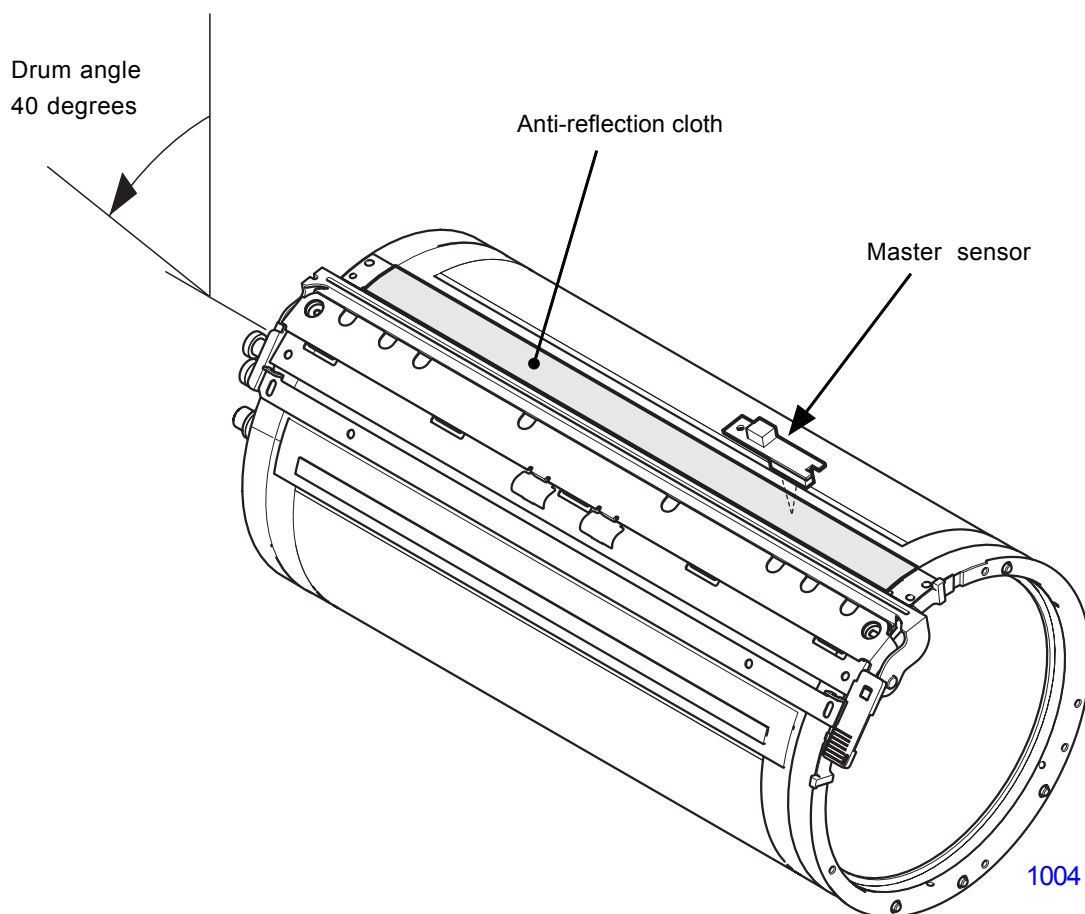


2. Master on the Drum Check Mechanism (Before Master Removal)

When creating a confidential or normal master, the print drum makes one rotation from its position-B. During this rotation, the Master sensor checks for the presence of the master on the drum at 40 degrees turn from position-A. If a master is found on the drum, the machine makes the master removal action with the master removal sensor active. If no master is found, the master removal action is made with the master removal sensor deactivated.

The default position of 40 degrees from position-A to check the presence of master on the drum can be changed by test mode No. 940.

If the machine already knows that there is a master on the drum before going into master making operation, the master on the drum check action is skipped, and the print drum starting the rotation from the position-B goes immediately into master removal action.



3. Removed Master Vertical Transport Mechanism

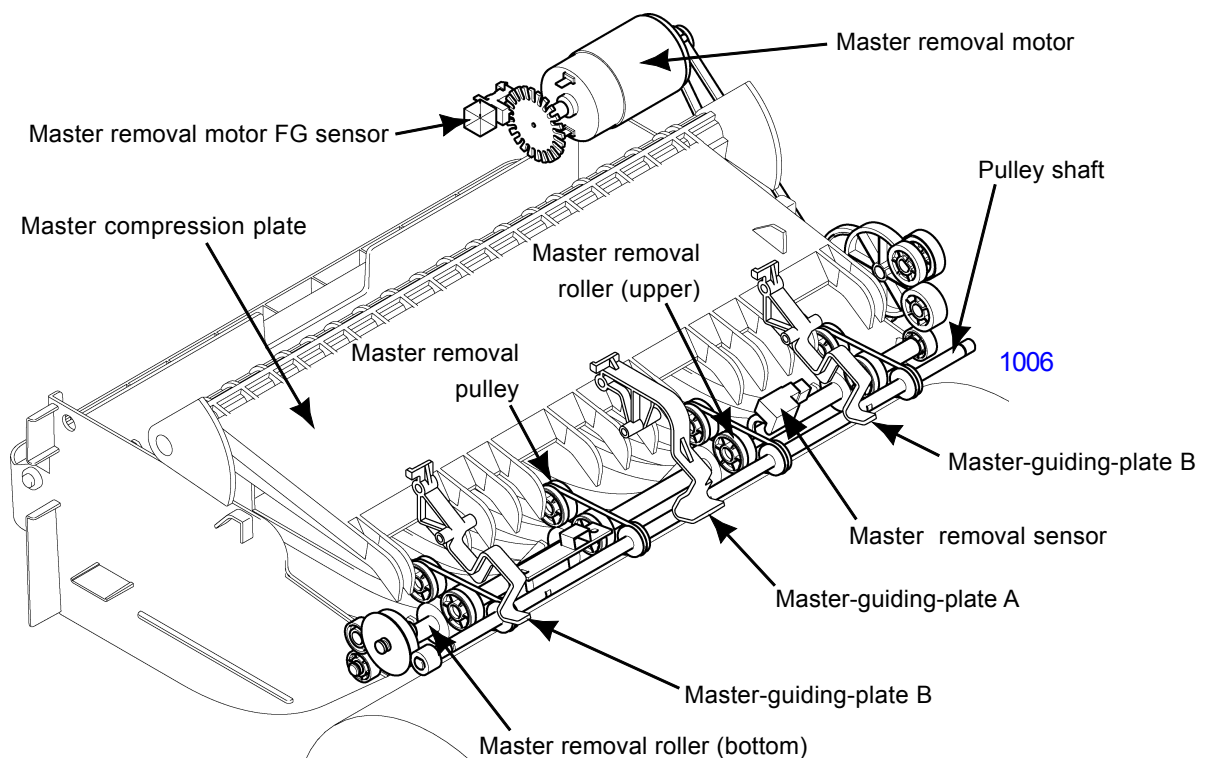
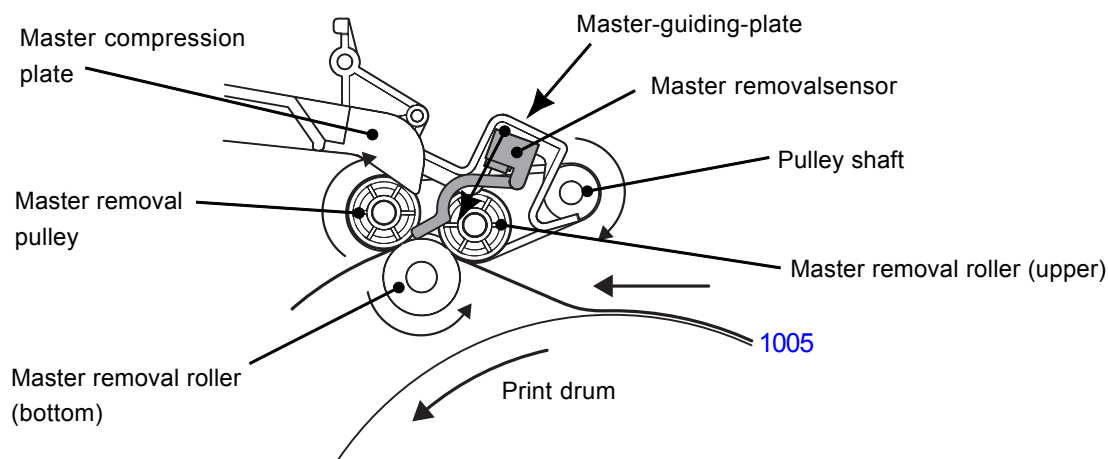
At the start of the clamp plate opening action to remove the master from the drum, the master removal motor activates to rotate the master removal rollers to catch the leading edge of the removed master from the drum. With the continued rotation of the print drum, the removed master is transferred into the master disposal box by the master removal rollers.

Once the master removal action has started and the print drum rotates to position-A, the main motor stops, and also the master removal motor deactivates 0.5 seconds later.

Whether the master has arrived into the master disposal area or not is checked by the master removal sensor at drum angles 120 degrees and 180 degrees during the master removal action.

The master removal roller speed is checked by the master removal motor FG sensor, and the speed can be adjusted by test mode No. 578.

After the master removal action ends, the master-guiding-plates A and B are raised by the master compression plate to clear the path for the oncoming master on the next master removal action.



4. Disposed Master Compression Mechanism

1) Initializing movement

The initialization action of the master compression plate is made in two occasions.

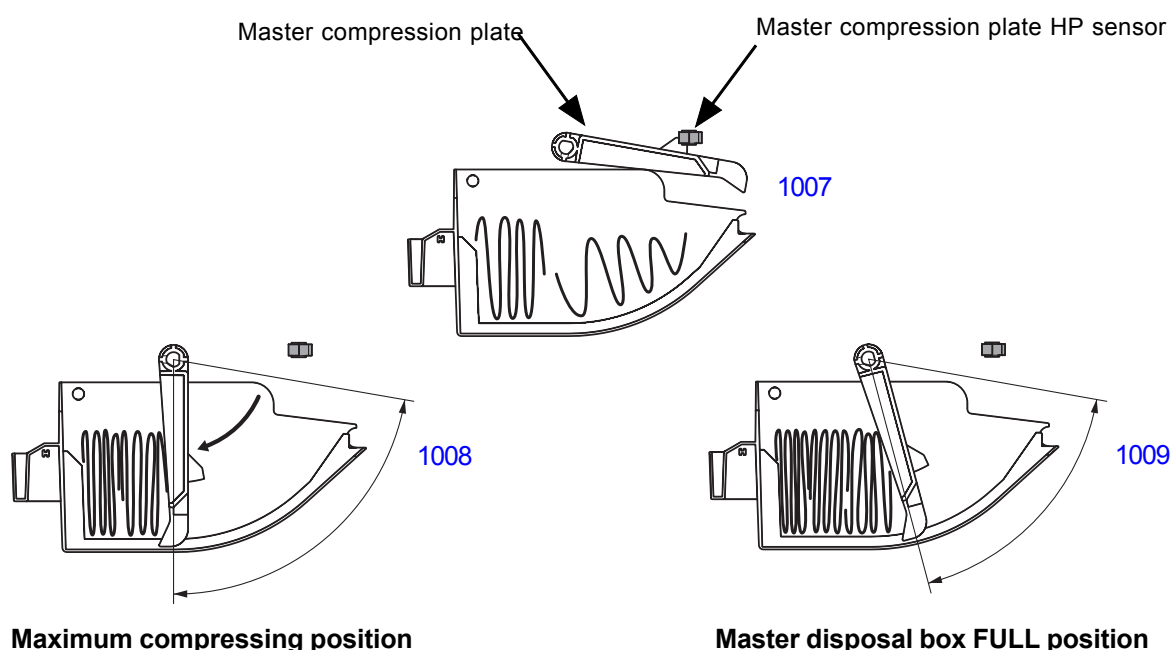
- (1) If the master compression plate HP sensor is found opened when the machine power is turned ON or when the all-reset key is pressed, the master compression motor rotates in the return direction until the light path of the master compression plate HP sensor becomes blocked. If the light path of the master compression plate HP sensor is blocked from the start, the initializing operation of the master compression plate is not performed.
- (2) If the light path of the master compression plate HP sensor is opened at the start of the master compressing operation, the master compression motor rotates in the return direction until the light path is blocked. If the light path of the sensor is blocked from the start, the initializing operation of the master compression plate is not performed.

2) Master compressing movement

With only a small amount of removed master in the master disposal box, the master compression plate makes full compressing action. The plate stops at the maximum down position for 3 seconds and then returns to the fully raised home position. The maximum down position is 130 pulse count by the FG sensor (adjustable by test mode No.573). The FG sensor, located in between the series of gears between the master compression motor and compression plate, starts counting the pulses when the compression plate clears from the master compression plate HP sensor.

As the removed master in the master disposal box increases, the resistance to the compression plate increases, causing the plate to slow down during the compression movement. The compression plate ends the compressing action before it reaches the 130 pulse count position. If the time intervals between each pulse exceeds 53 ms (adjustable by test mode No.575), the compression plate ends the compression action and stops for 3 seconds. The plate then returns to the home position.

As the amount of the removed master increases, the resistance against the compression plate increases during the compressing movement. If the time interval exceeds more than 53 ms (adjustable by test mode No.575) between each FG count within the compression plate arrives at 106 pulse count from the home position (adjustable by test mode No.576), the master disposal box is detected to be full. The LED lamp on the operation panel lights to give the FULL message.

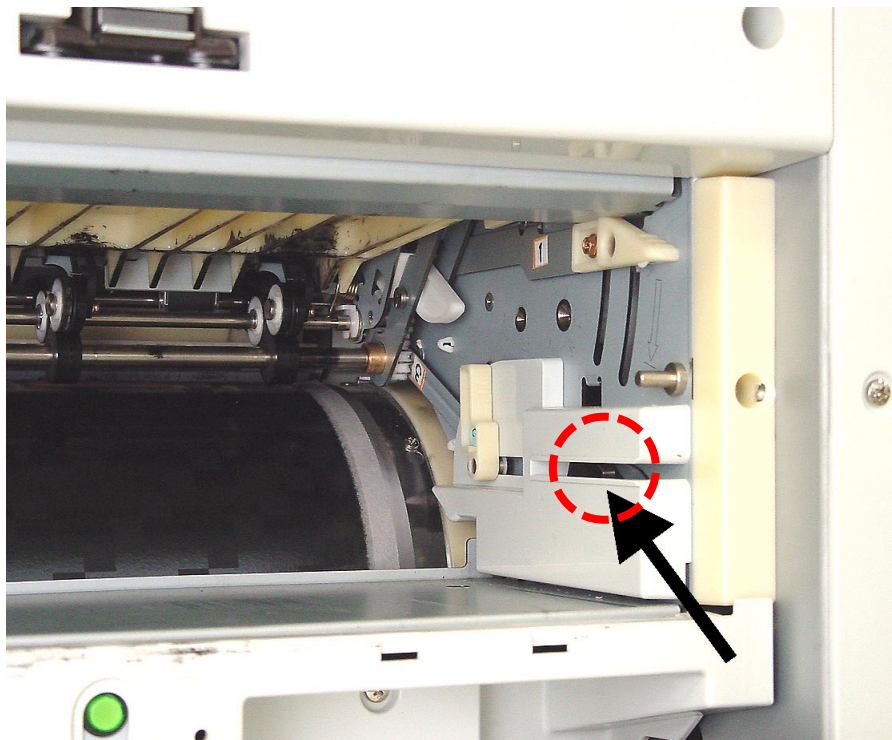


5. Master Disposal Box Safety SW

The master disposal box safety switch checks whether the master disposal box is correctly set on the machine.

When the master disposal box is not set on the machine, the master disposal safety switch prevents the main motor, clamp motor, master removal vertical transport motor and master compression motor from turning ON.

In the case the master disposal box FULL indication LED lights up on the operation panel, the master disposal box needs to be removed from the machine to switch OFF the master disposal box safety switch for 5 seconds to reset and clear the LED indication.



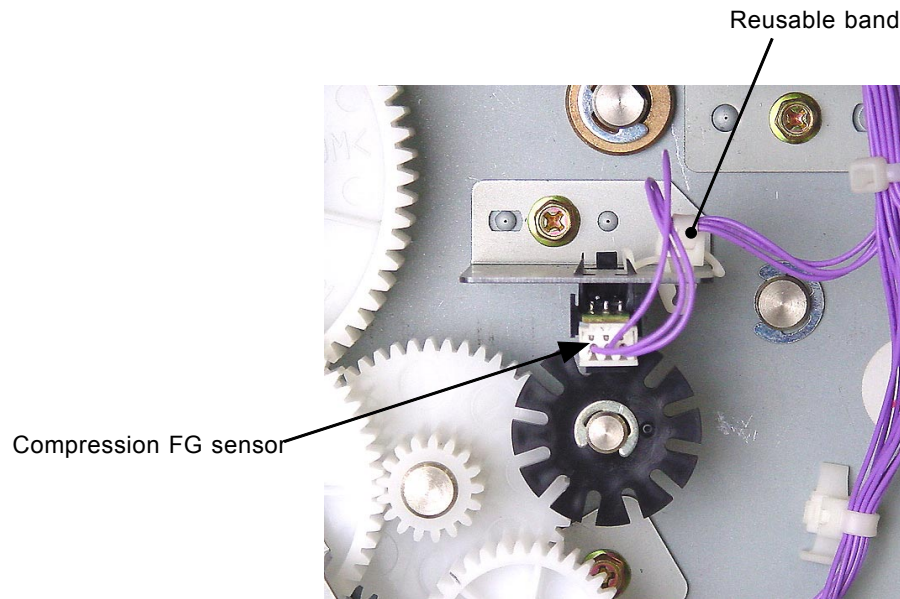
1010

Master disposal box safety SW

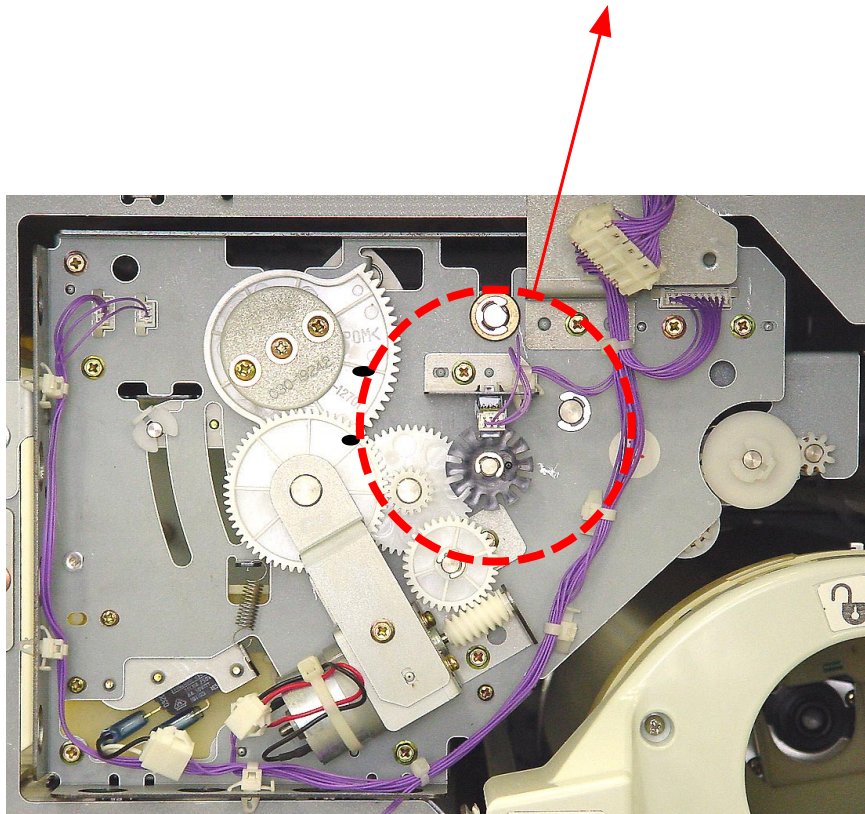
Disassembly

1. Removing the Master Compression FG Sensor

- (1) Switch off the machine power and remove the front cover.
- (2) Disconnect the connector to the sensor and unplug the reusable band from the sensor bracket.
- (3) Remove a screw (M3x6: 1pc) and detach the master compression FG sensor together with the bracket.



1011

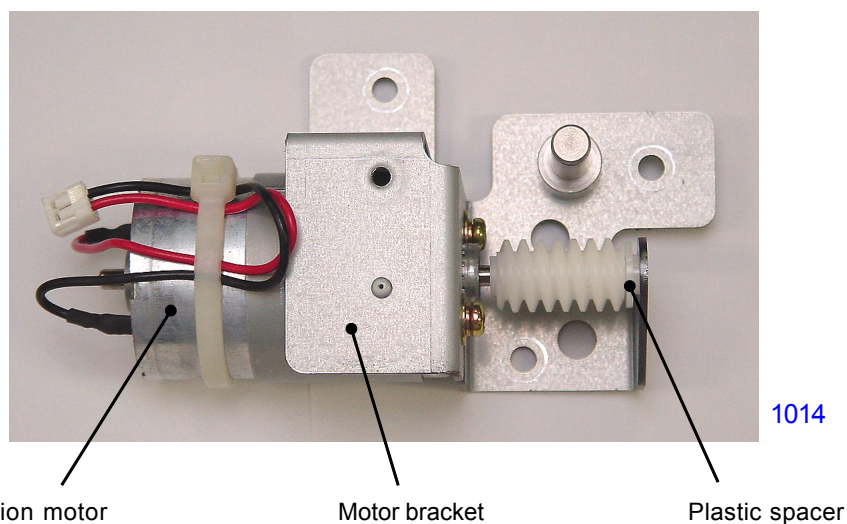
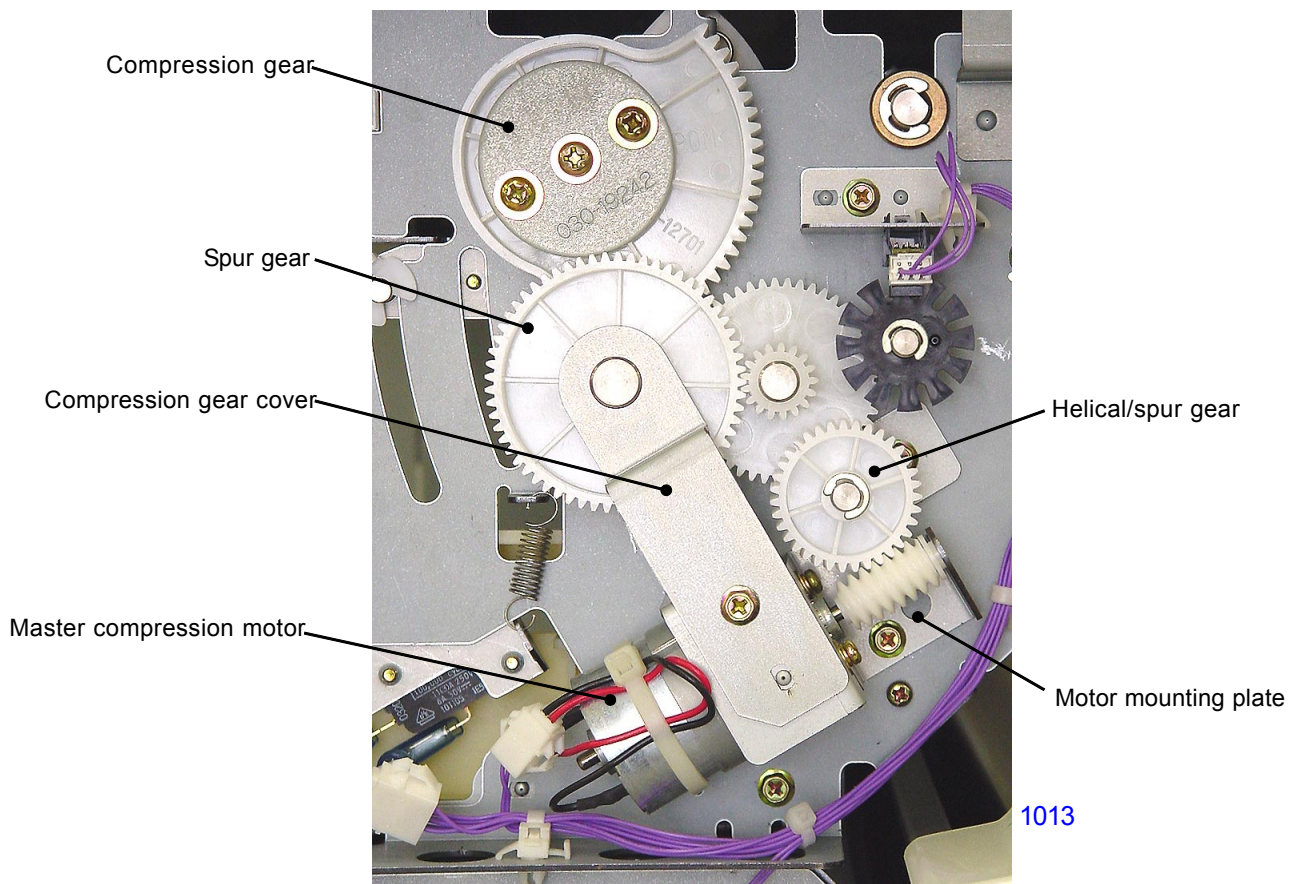


1012

2. Removing the Master Compression Motor

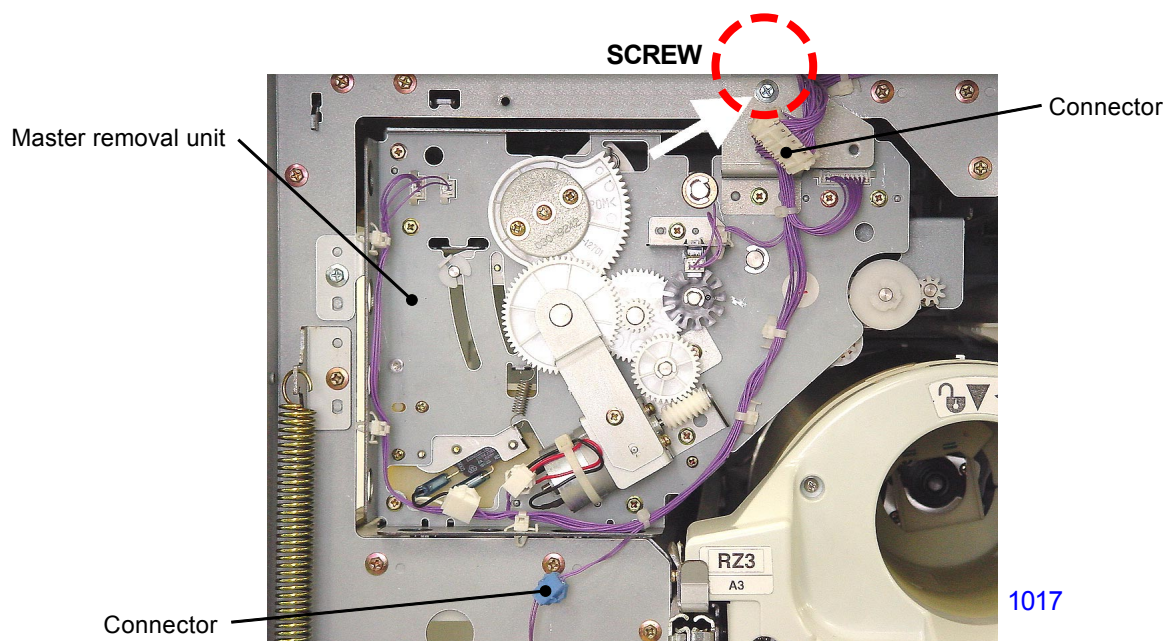
- (1) Switch off the machine power and remove the front cover.
- (2) Remove a screw (M3x6: 1pc) and detach the compression gear cover.
- (3) As the master compression plate swings down by its weight, remove the spur gear while holding the compression gear by hand and let the plate swing down slowly.
- (4) Detach the helical/spur gear by removing an E-ring.
- (5) Remove screws (M3x6: 3pcs) and detach the master compression motor, together with the motor bracket.
- (6) Detach the motor from the bracket by removing screws (M3x5: 2pcs).

* Be careful not to lose the white thin plastic spacer on the tip of the worm-gear on the motor shaft.



3. Removing the Master Removal Unit

- (1) Switch off the machine power, remove the master disposal box and detach the front cover.
- (2) Remove the master removal covers F & R by removing screw (M3x8: 1pc each).
- (3) Remove the screws (M4x8: 1pc each) found after removing the master removal covers F & R.
- (4) On the operators side of the machine (front), disconnect the two connectors and remove one screw (M4x8: 1pc) located on the top right, and slide the master removal unit out toward the operators side of the machine.



4. Removing the Master Removal Sensor & Master Sensor

- (1) Switch off the machine power and detach the master removal unit from the machine.

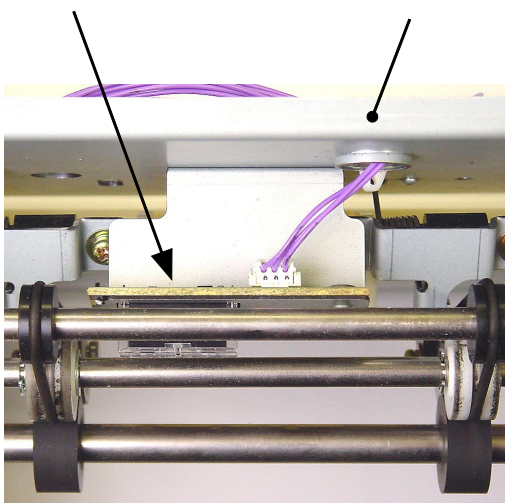
Removing the master sensor

- (2) Disconnect the sensor connector, remove a screw (M3x6: 1pc), and detach the master sensor together with the sensor bracket.

Removing the master sensor

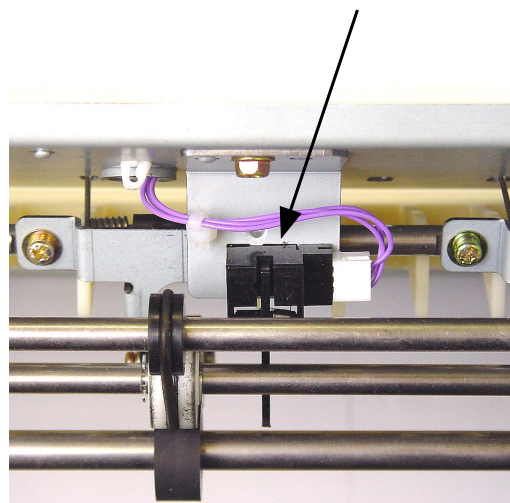
- (2) Disconnect the sensor connector, remove a screw (M3x6: 1pc) by inserting a screwdriver through a hole on the master disposal housing, and detach the master sensor.

Master sensor Master disposal housing



1018

Master removal sensor



1019



1020

< Master Removal Unit >

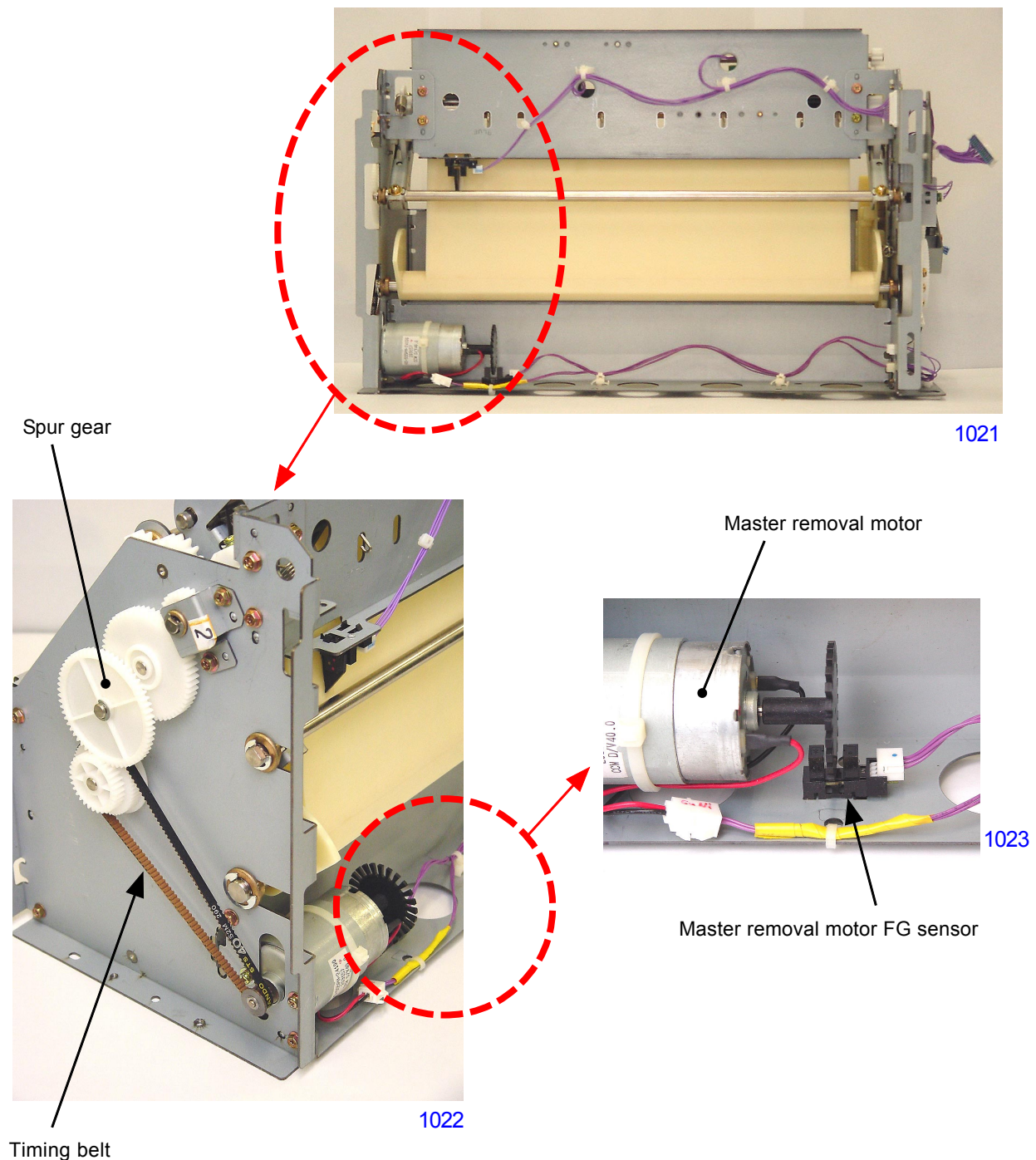
5. Removing the Master Removal Motor & Master Removal Motor FG sensor

Removing the master removal motor

- (1) Switch off the machine power and detach the master removal unit.
- (2) Remove an E-ring and detach the spur gear.
- (3) Remove the timing belt.
- (4) Disconnect the motor connector, remove screws (M3x5: 2pcs), and detach the master removal motor.

Removing the master removal motor FG sensor

- (5) Disconnect the sensor connector and detach the master removal motor FG sensor.

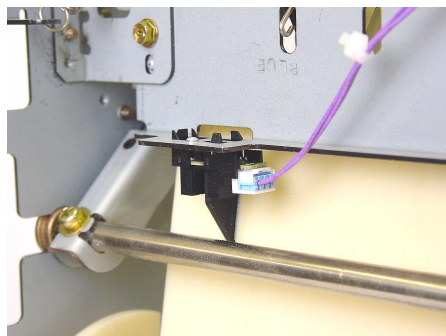


6. Removing the Master Compression Plate HP Sensor

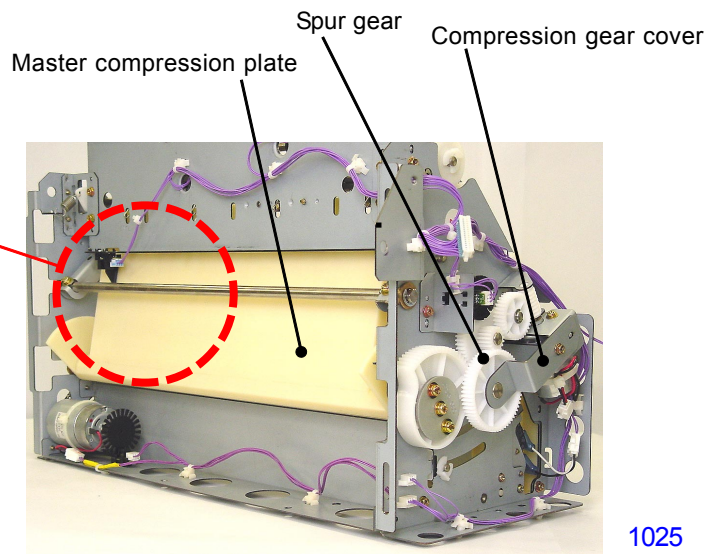
- (1) Switch off the machine power and detach the master removal unit.
- (2) Remove the compression gear cover and spur gear, and then lower the master compression plate.
- (3) Unplug the sensor connector and detach the master compression plate HP sensor.

< Precaution in Reassembly >

Mount the master compression plate at its home position during the assembly.

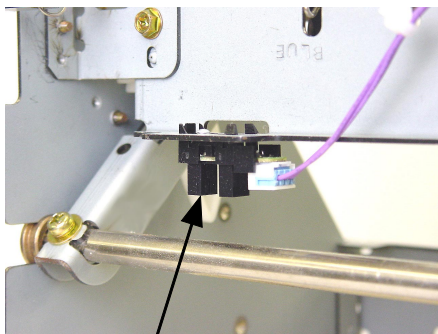


1024



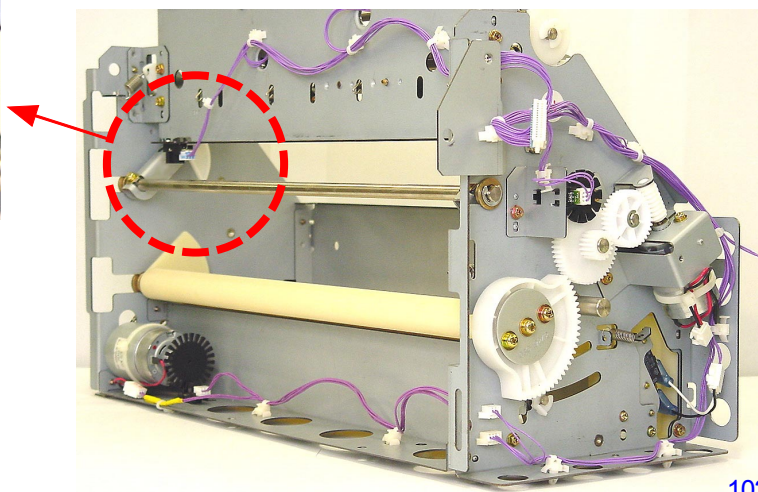
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< Master Compression Plate at HP position >



1026

Master compression plate HP sensor

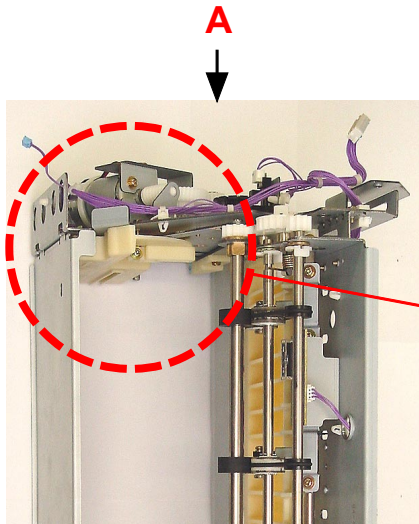


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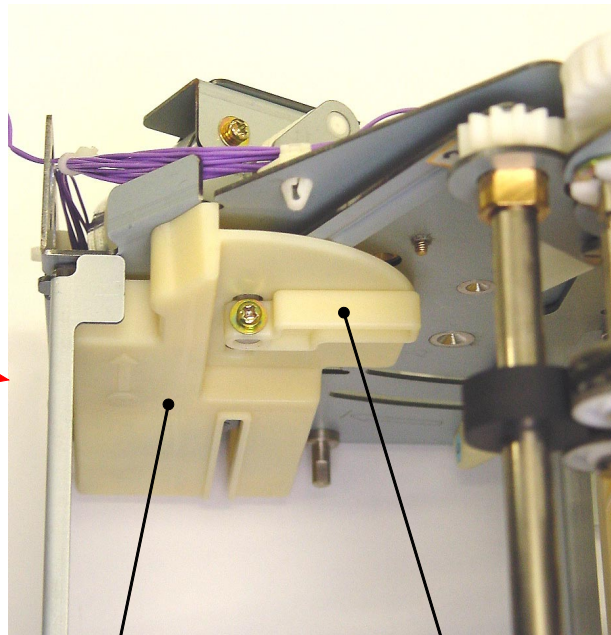
< Master Compression Plate at its lowered position >

7. Removing the Master Disposal Box Safety SW

- (1) Switch off the machine power and detach the master removal unit.
- (2) Remove a screw (M3x6: 1pc) and detach the master disposal roller lock lever.
- (3) Remove screws (M3x8: 3pcs) and detach the master disposal box guiding plate.
- (4) Remove the switch spring.
- (5) Disconnect the switch connector, remove a shoulder screw and detach the master disposal spring safety SW together with switch bracket.



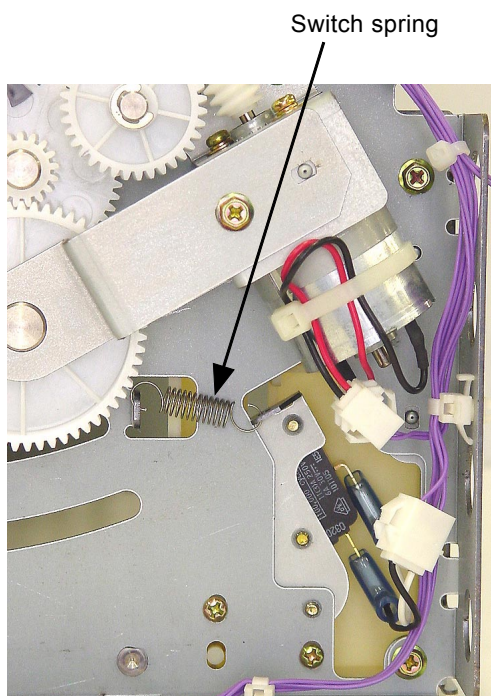
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1029

Master disposal box guiding plate

Master removal roller lock lever



< View from A >

1030



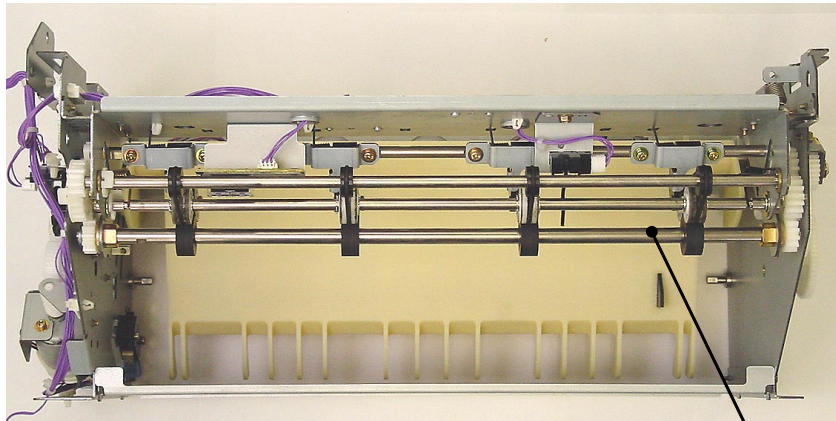
1031

Master disposal box safety SW

8. Removing the Master Removal Roller (Bottom)

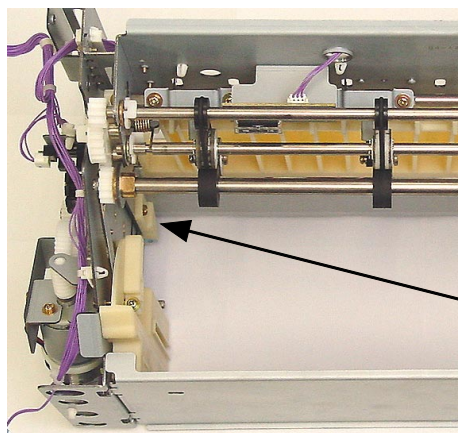
- (1) Switch off the machine power and detach the master removal unit.
- (2) Remove the master disposal roller lock lever and master disposal box guiding plate.
- (3) Detach the compression gear cover and spur gear to lower the master compression plate.
- (4) Press the master removal roller release lever to drop the master removal roller (bottom).

- continues to next page -

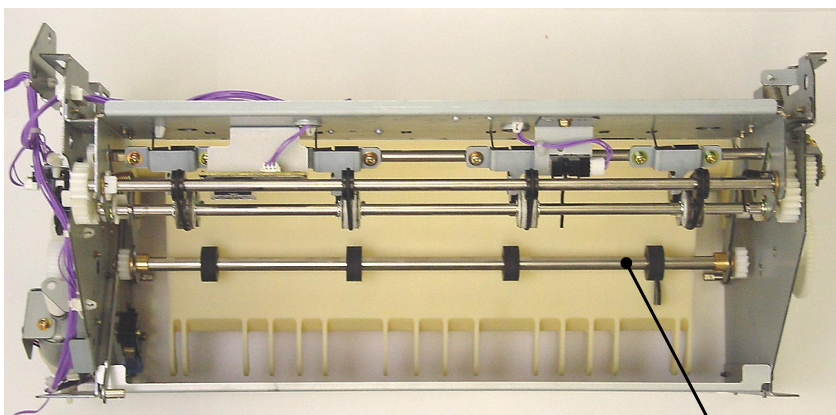


< Master Removal Roller (bottom) in raised position >

Master removal roller (bottom)



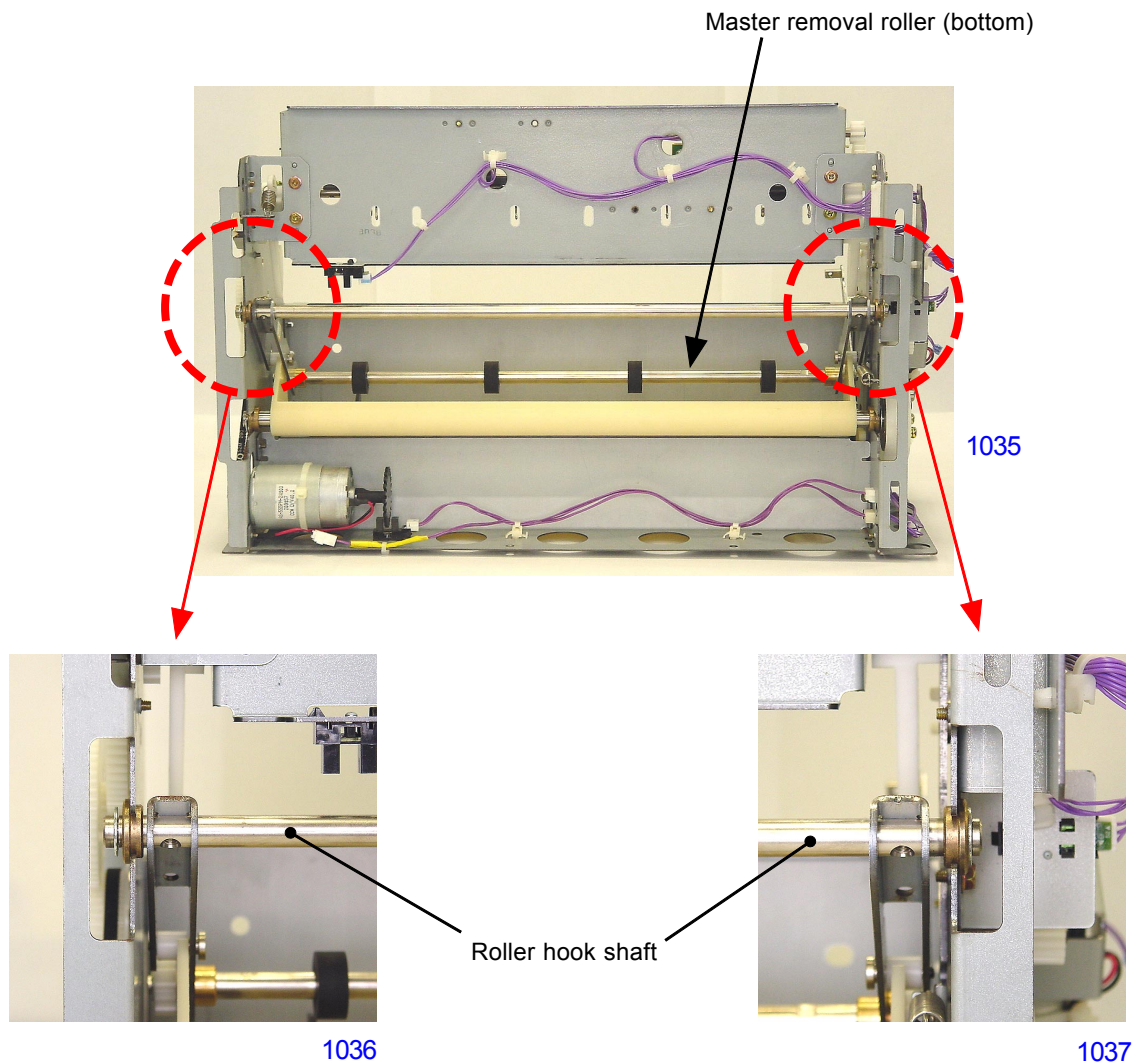
Master removal roller release lever



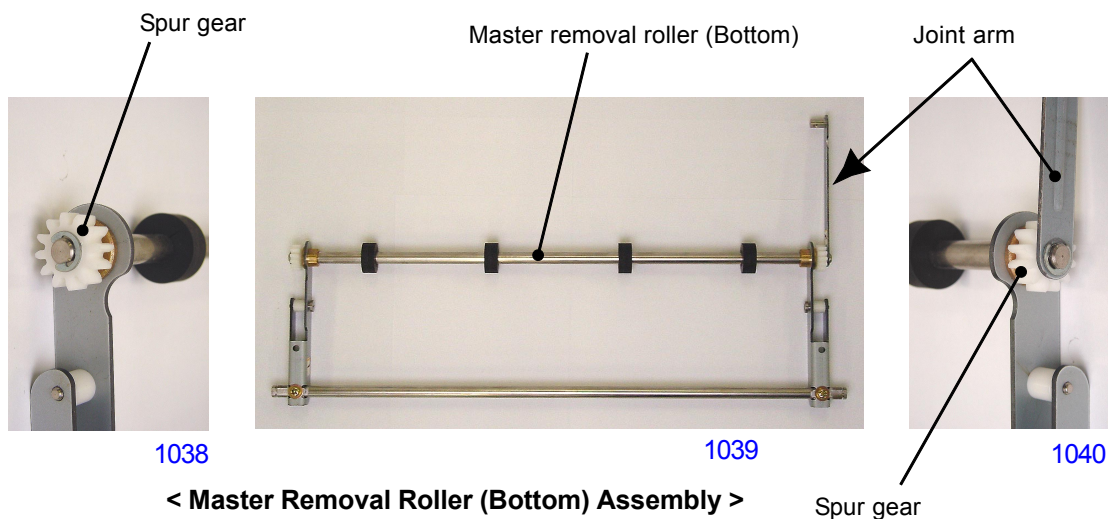
< Master Removal Roller (bottom) in dropped position >

Master removal roller (bottom)

- (5) Remove E-rings and metal bushings from both ends of the roller hook shaft, and detach the master removal roller (bottom) assembly by lifting it upwards.

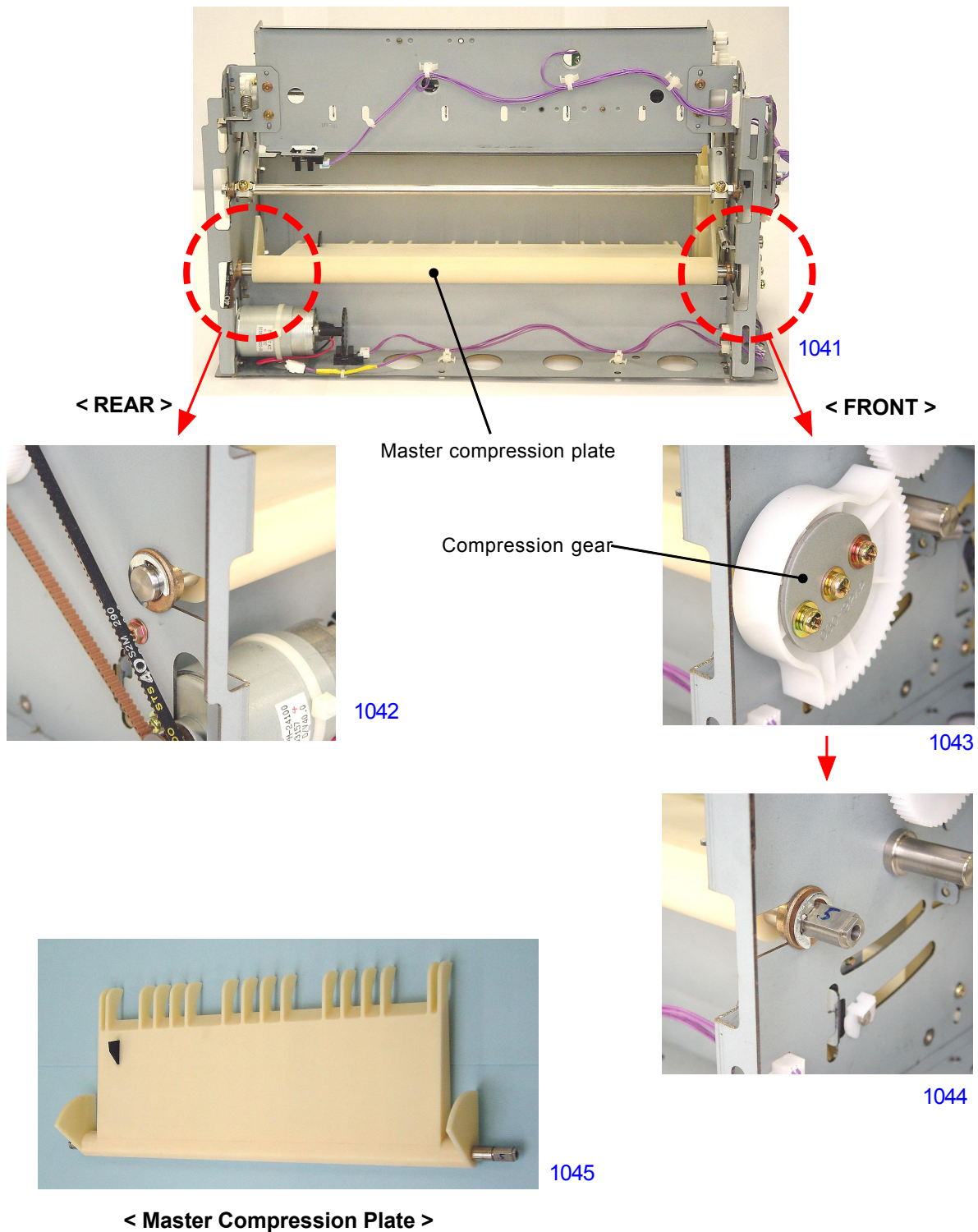


- (6) From the rear tip of the master removal roller (bottom) assembly, remove an E-ring and detach both the spur gear and metal bushing.
- (7) From the front tip of the master removal roller (bottom) assembly, remove an E-ring and detach the joint arm, spur gear, and metal bushing. Detach the master removal roller (bottom) from the assembly.



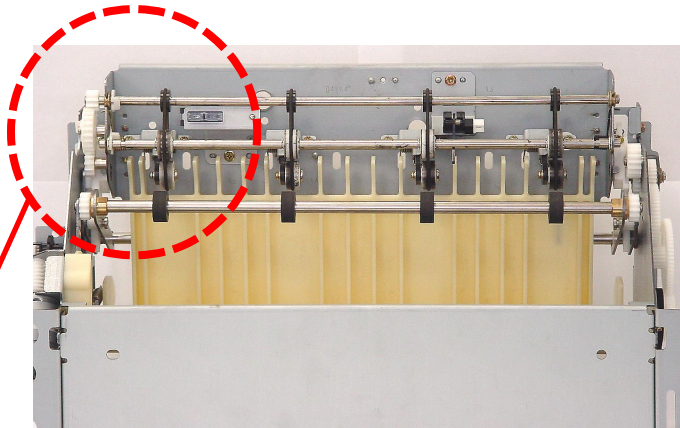
9. Removing the Master Compression Plate

- (1) Switch off the machine power and detach the master removal unit.
- (2) Detach the compression gear cover and spur gear to lower the master compression plate.
- (3) Remove an E-ring and metal bushing from the rear of the unit.
- (4) Remove a screw (M4x8: 1pc) from the front of the unit and detach the compression gear.
- (5) Remove an E-ring and metal bushing from the front of the unit and detach the master compression plate.

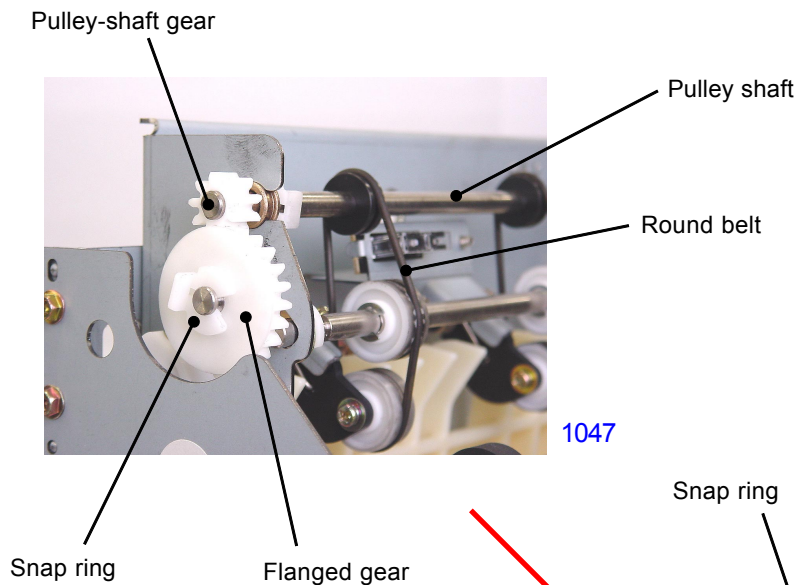


10. Removing the Pulley Shaft

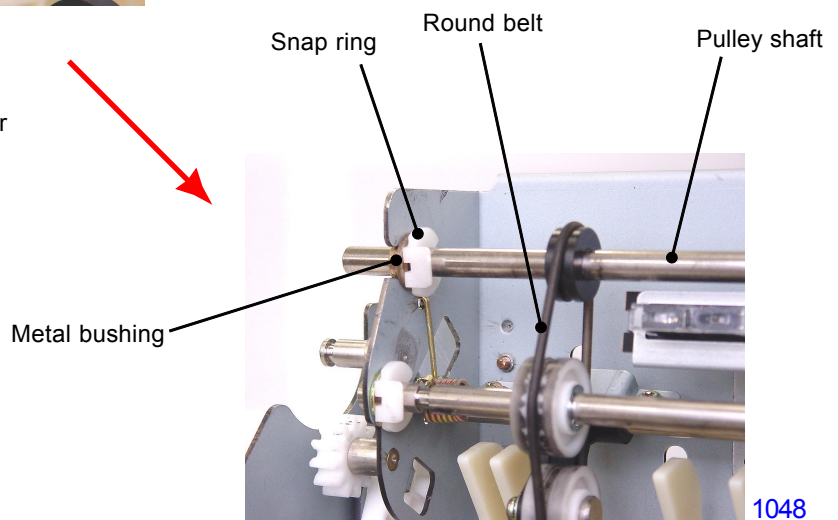
- (1) Switch off the machine power and detach the master removal unit.
- (2) Press the master removal roller release lever to release the master removal roller (bottom).
- (3) Detach the flanged-gear and pulley shaft gear on the operator's side of the master removal unit by removing a snap ring in front of the flanged gear.
- (4) Also on the operator's side of unit, remove a snap ring and unhook the metal bushing from the frame and slide inward. Remove the pulley shaft from the unit by pulling it out through the round belts.



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1047

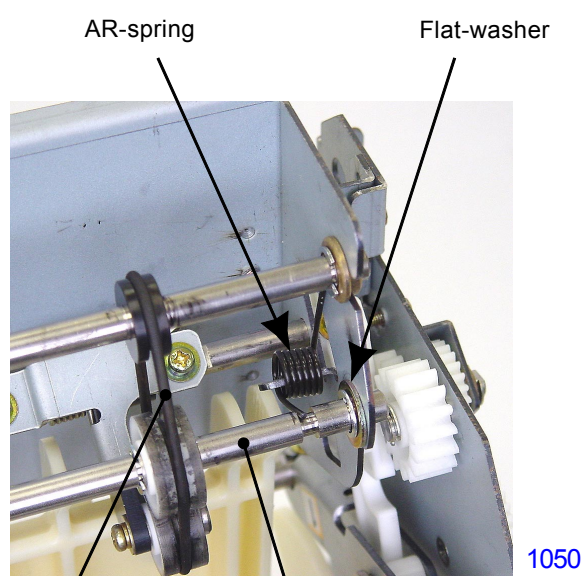
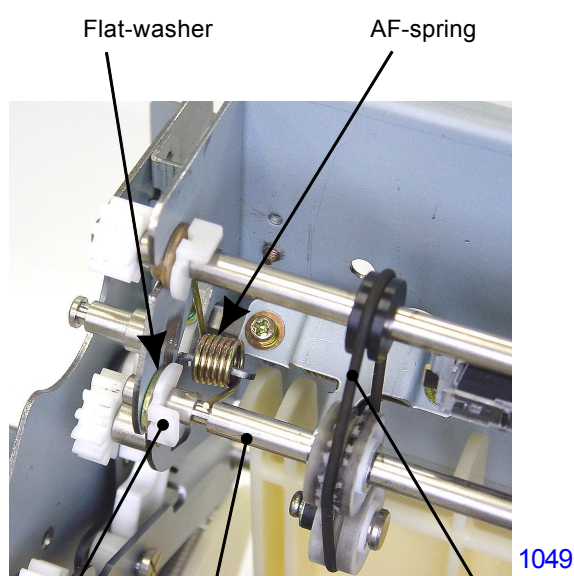
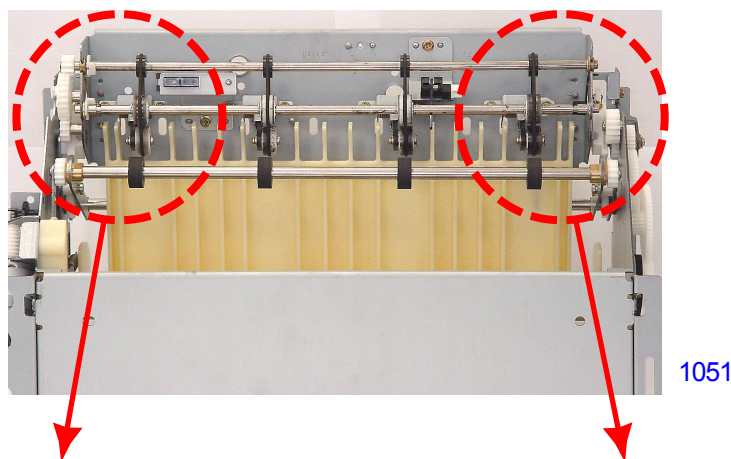


1048

11. Removing the Master Removal Roller (Upper)

- (1) Switch off the machine power and detach the master removal unit.
- (2) Press the master removal roller release lever to release the master removal roller (bottom).
- (3) Detach the flanged-gear on the operator's side of the master removal unit by removing a snap ring in front of the flanged gear.
- (4) Remove the AF-spring and AR-spring from the master removal unit.
- (5) Unhook the round belts from the pulleys on the master removal roller (upper).
- (6) Remove a snap ring from the front (operator's side) of the master removal roller (upper). Slide the shaft of the roller to the front to free the rear side of the roller off the frame of the master removal unit. Remove the flat-washer from the shaft. Free the front side of the roller shaft from the frame of the unit and remove the flat-washer from the shaft on the front side also. Pull the master removal roller (upper) out through the round belts.

* Do not lose the two flat-washers, and do not forget to put them during the assembly.



Snap ring Master removal roller (upper) Round belt

Round belt Master removal roller (upper)

12. Removing the Round Belts

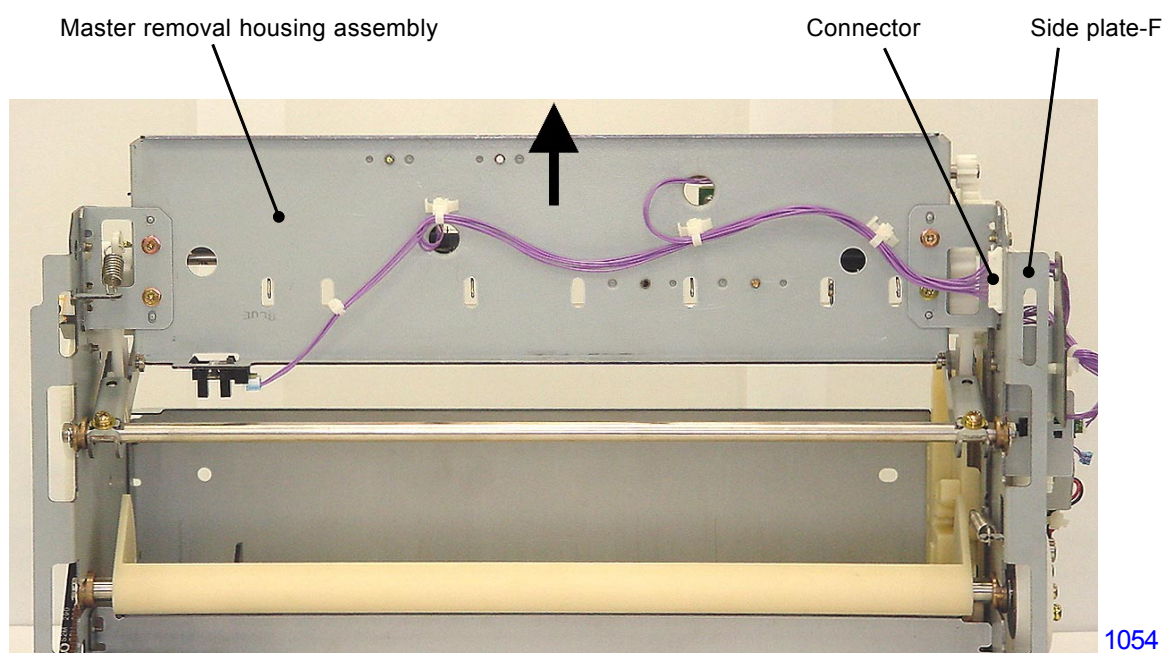
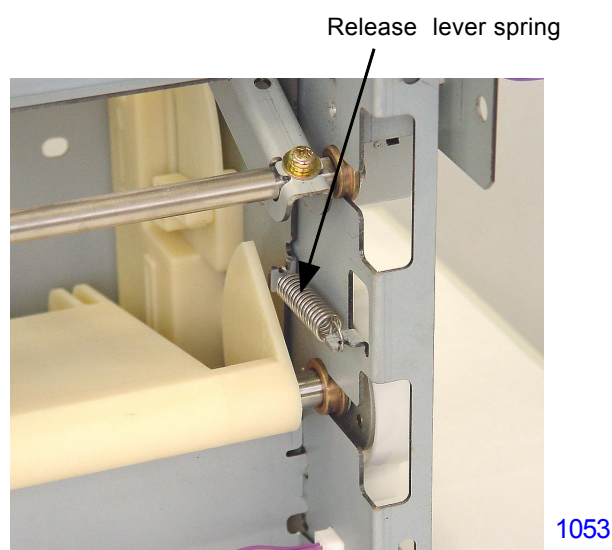
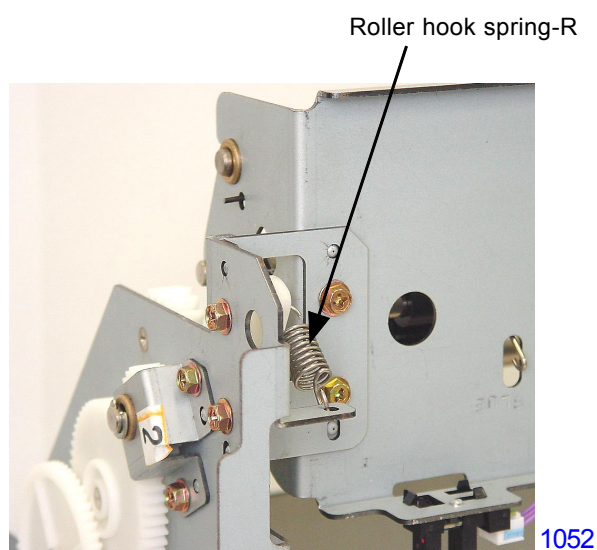
- (1) Switch off the machine power and detach the master removal unit.
- (2) Press the master removal roller release lever to release the master removal roller (bottom).
- (3) Removing the following two components enable the round belts to be removed.
 - Pulley-shaft
 - Master removal roller (upper)

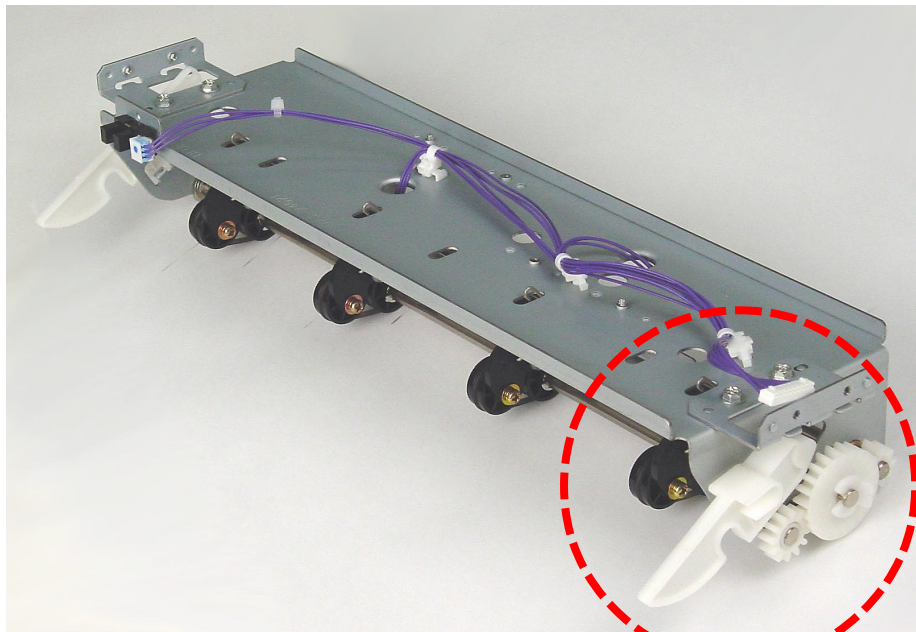
13. Removing the Master Removal Housing Assembly

- (1) Switch off the machine power and detach the master removal unit.
- (2) Detach the compression gear cover and spur gear to lower the master compression plate.
- (3) Press the master removal roller release lever to release the master removal roller (bottom).
- (4) Detach the roller hook spring-R from the rear.
- (5) Detach the release lever spring from the front, watching out for injuries as the spring is strong.
- (6) Disconnect the connector from the side plate-F, and by remove screws (M3x6: 2pcs each) from the front and rear, remove the master removal housing assembly by sliding it out towards the paper ejection side.

< Precaution on reassembly >

- Fit the boss on the release lever into the groove on the roller hook-F.

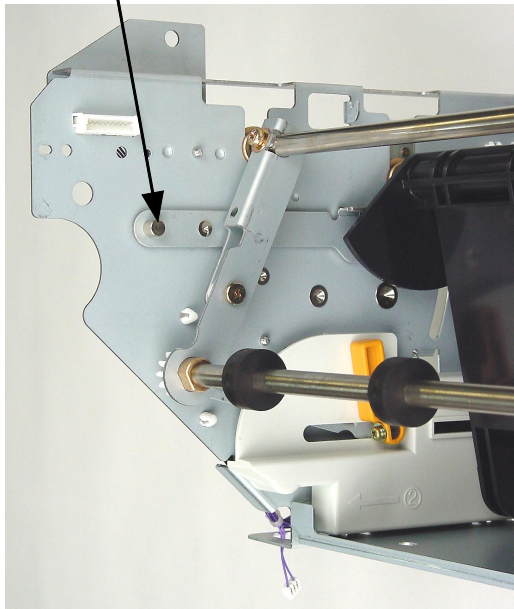




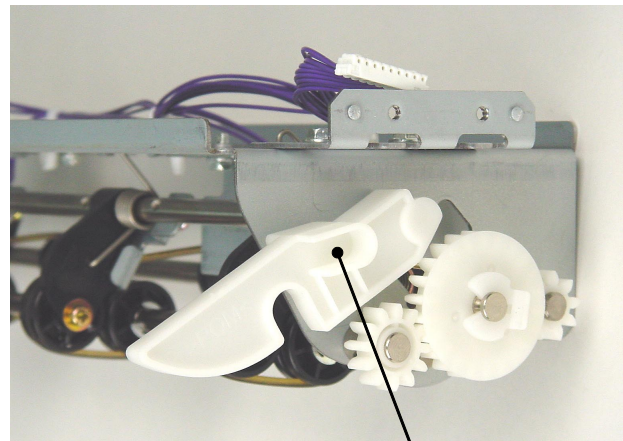
1055

< Master Removal Housing Assembly >

Boss on the release lever



1056



1057

Groove on the roller hook-F

MEMO

CHAPTER 11: FB ORIGINAL SCANNING SECTION

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Mechanism

1. Original Scanning Mechanism

The FB read pulse motor drives the front and rear wire drum by timing belts with the speed reduced by two speed reduction pulleys.

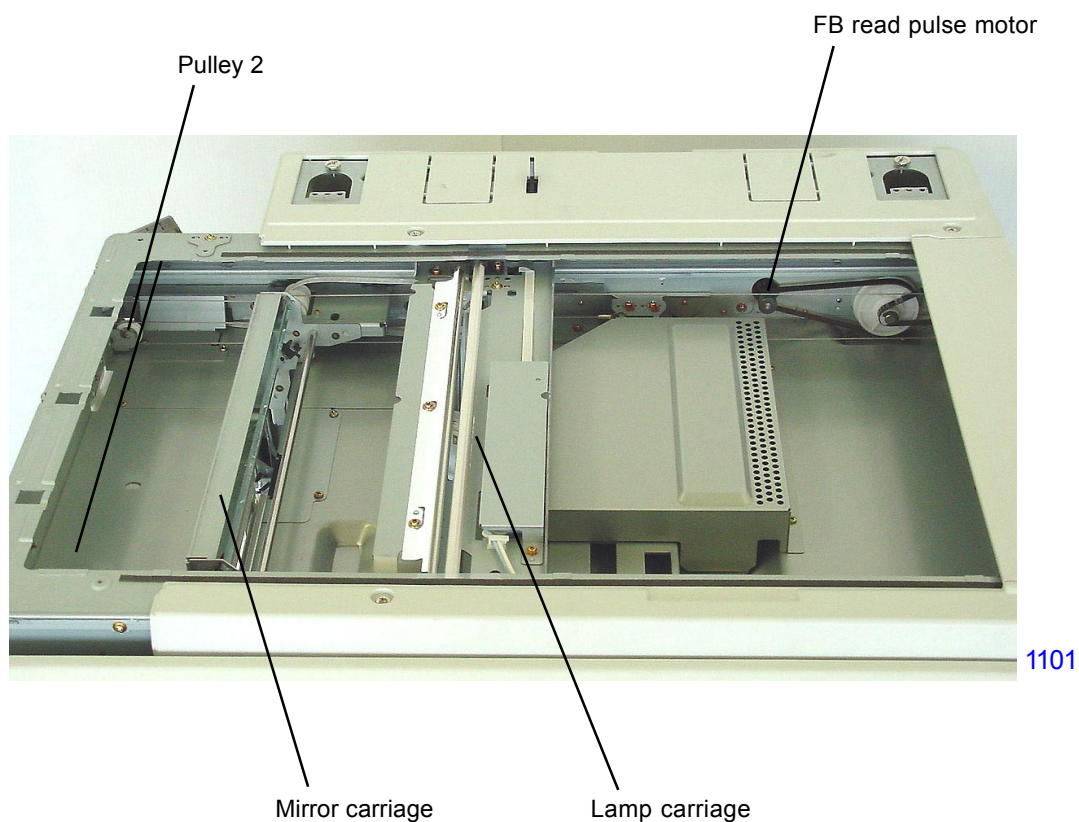
The wire drive system for the front and rear are symmetrically made.

One end of the wire is secured to the front side of the scanner unit frame and from there it goes around pulley No.2 mounted on the mirror carriage. It then goes around the pulley fixed on the front side of the scanner unit frame and then wound on wire spool pulley located at the back of the scanner unit. From the wire spool pulley, the wire is attached onto the lamp carriage. It then continues to go around the pulley No.1 on the mirror carriage and finally the other end is fixed on the frame of the scanner unit.

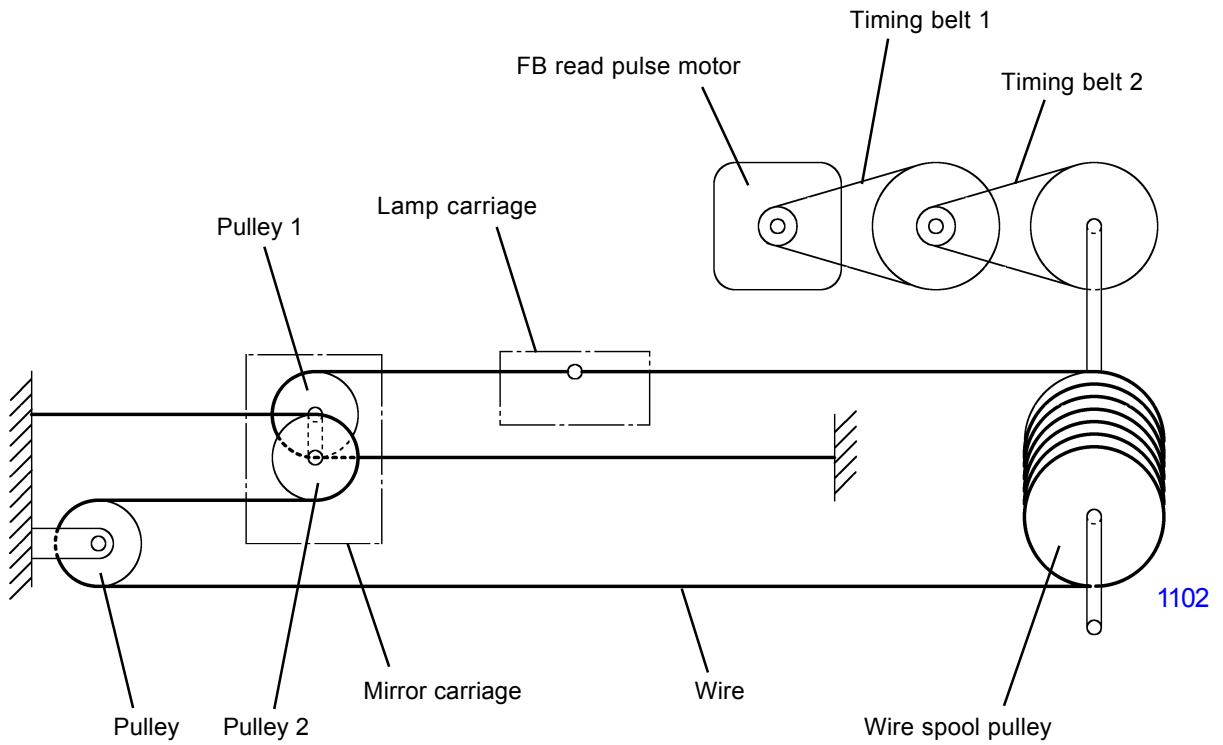
The lamp carriage is mounted with one original illumination lamp, a reflector, a lamp inverter, and mirror No.1. The mirror carriage is provided with mirrors No. 2 and No.3.

The mechanism uses a "full/half-rate mirror scanning" system, in which the mirror carriage moves $\frac{1}{2} L$ mm as the lamp carriage moves L mm in the same direction. This means that when the FB read pulse motor is activated, the original can be scanned while maintaining a constant distance between the original and the lens on the CCD assembly mounted on the scanner unit.

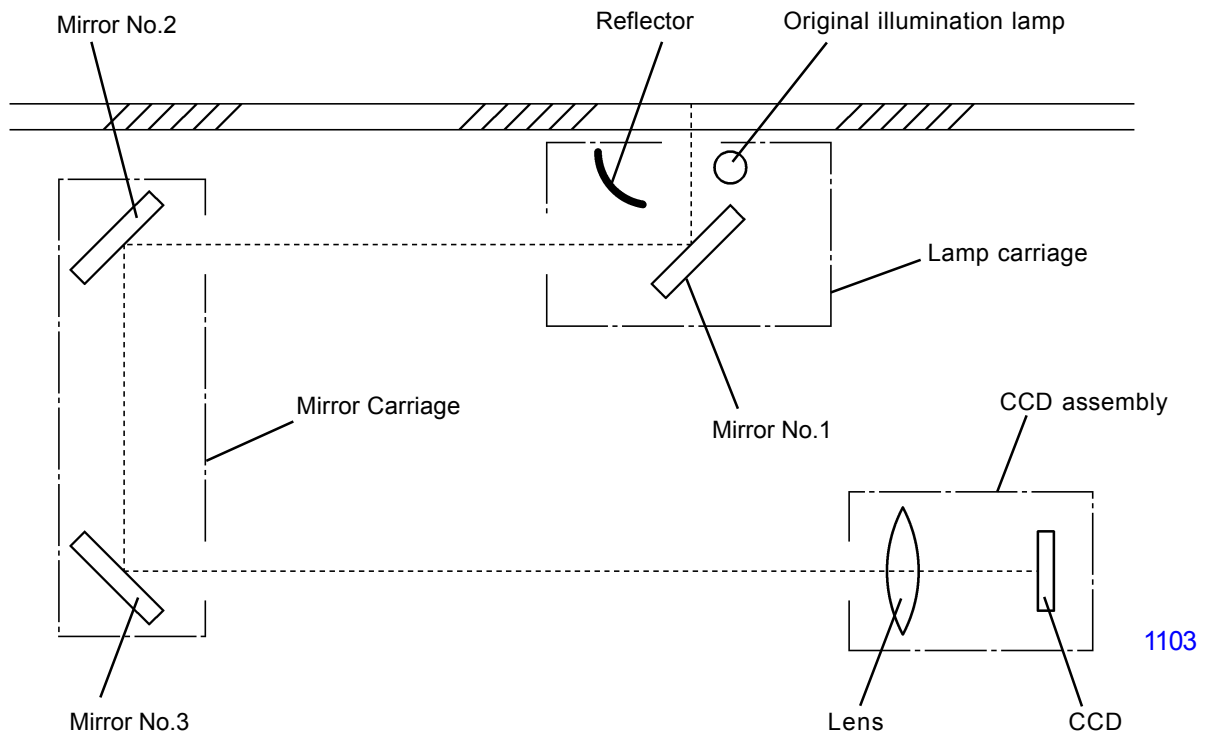
The original on the scanner table illuminated by the lamp is reflected via mirrors No.1, 2, and 3, and the scanned image is then focused onto the CCD by the lens on the CCD assembly.



Drive system diagram



Optical system diagram



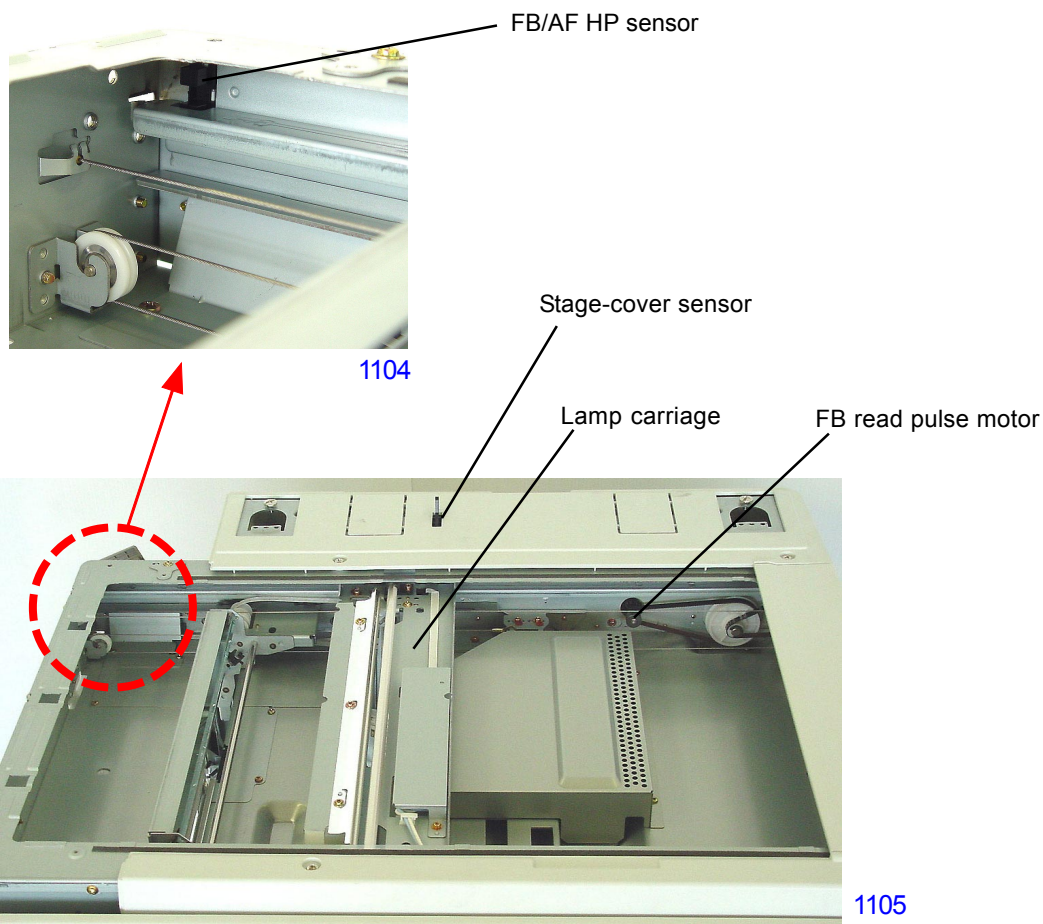
2. Flatbed Initialization Movement

Initialization is performed in the following situations to bring the flatbed unit to the home position.

- When the machine power is switched on.
- When recovering from the sleeping mode (wake-up).

Initialization operation

- (1) When either one of the above two conditions is activated, if the FB/AF HP sensor is detecting the lamp carriage, the FB read pulse motor rotates in the scanning direction to move the lamp carriage out of the sensor detection. Once the lamp carriage escapes from the sensor detection, the FB read pulse motor rotates in the return direction until the sensor detects the lamp carriage again and keeps on moving until the lamp carriage moves 8mm further from the first detected position and stops. This is called the home position, and at the home position the sensor is still detecting the carriage.
- (2) If the lamp carriage was not detected when either one of above two conditions is activated, the FB read pulse motor rotates in the reverse direction to move the carriage back 8mm and stops. If the HP sensor detects the carriage during this movement, the initialization movement explained in the above paragraph (1) takes place. If the carriage was not detected during the 8mm reverse movement, the pulse motor rotates in the forward direction to move the carriage 8mm in the scanning direction. Then the pulse motor rotates in the reverse direction to bring the carriage back until the HP sensor detects the carriage and stops after the carriage moves 8mm from the detected position (home position).
- (3) In the case the machine power switch is turned ON and after the initialization movement is made, both the offset and gain adjustments are performed. Then, the initialization movement explained by above paragraph (2) is made.



3. Stage-Glass Original Detection Mechanism

The FB original detection sensor checks whether an original has been placed on the stage glass. As soon as the stage cover is closed halfway, blocking the light path to the stage-cover sensor, the FB original detection sensor checks whether there is an original on the stage glass. If the flatbed original detection sensor is receiving light (original present), the indication on the operation panel changes to "Master Making" and the shading-compensation and auto-base-control adjustment are performed. The lamp carriage is then moved to the scanning standby position with the scanner lamp turned on. If the Start key is pressed within 60 seconds, the scanning operation starts.

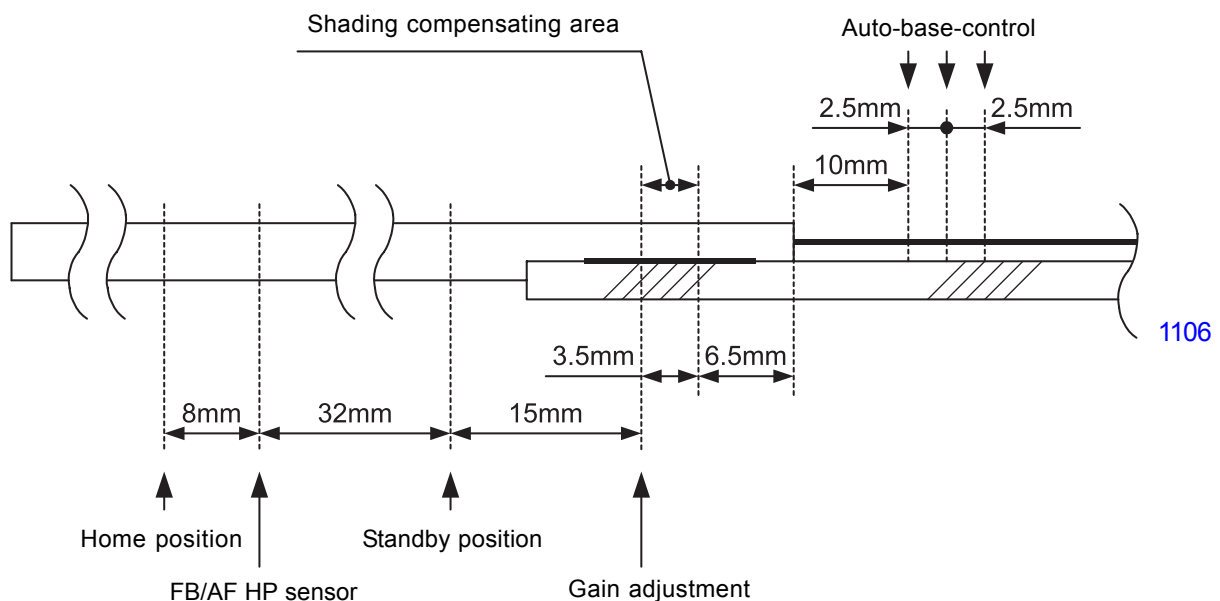
If the Start key is not pressed within 60 seconds, the scanner lamp turns off and the lamp carriage returns back to the home position.

4. FB Auto-Base-Control

When an original is set and the stage cover is closed, or when the original scanning density is set to "AUTO" and if the operation starts from the lamp carriage at home position, the auto-base-control, which is explained below, is conducted after the shading-compensation is performed.

With an original set on the scanner table and when the stage-cover sensor detects the stage cover closed, or when the Start key is pressed, the scanner lamp illuminates and the FB read pulse motor rotates in the scanning direction. At a distance of 47mm after the lamp carriage escapes from the FB/AF HP sensor, the lamp carriage stops for a very short period and moves another 3.5mm in which the shading-compensation is made. After the shading-compensation is performed, the lamp moves 16.5mm in the scanning direction (10mm from the leading edge of the original) and the CCD reads the color density of the original background. The original background is read two more times after moving the lamp 2.5mm in distance the each time. Therefore, the auto-base-control scanning is made 3 times in total.

The FB read pulse motor then rotates in the reverse direction to bring the lamp carriage back to the standby position and starts the original scanning.



5. FB Scanning Mechanism

When the Start key is pressed, the FB read pulse motor activates to move the lamp carriage in the scanning direction. After the top 4 mm of the original is skipped, the read signal turns ON and the original scanning operation starts.

Once the scanning is made for a specific given distance, the scanner lamp turns off to end the scanning operation.

If the Book mode scanning is selected, the read signal is turned off for the length of 20mm in the center of the paper size set on the paper feed tray.

The lamp carriage returns back to the home position after the scanning operation is finished.

Disassembly

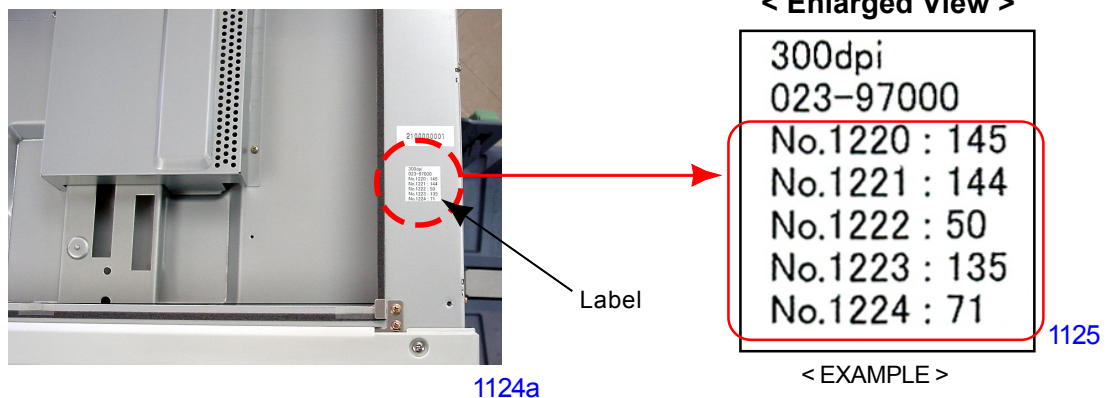
1. Removing the Scanner Unit

- (1) Switch off the machine power and remove the following covers.
 - Stage cover
 - Scanner cover;paper feed
 - Scanner cover;paper ejection
 - Scanner cover;rear
 - Operation panel
- (2) Detach the stage-cover sensor by removing one screw (M4x8: 1pc) and disconnecting a connector.
- (3) Disconnect the relay PCB connector.
- (4) Disconnect the FB read pulse motor connector.
- (5) Disconnect the scanner wire harness (flat-cable) connector.
- (6) Remove the two hinge brackets by removing screws (M4x8: 2pcs each).
- (7) Remove screws (M4x8: 6pcs) securing the scanner bracket onto the machine, and lift and remove the scanner unit. **(This is a heavy precision component. Handle with care.)**



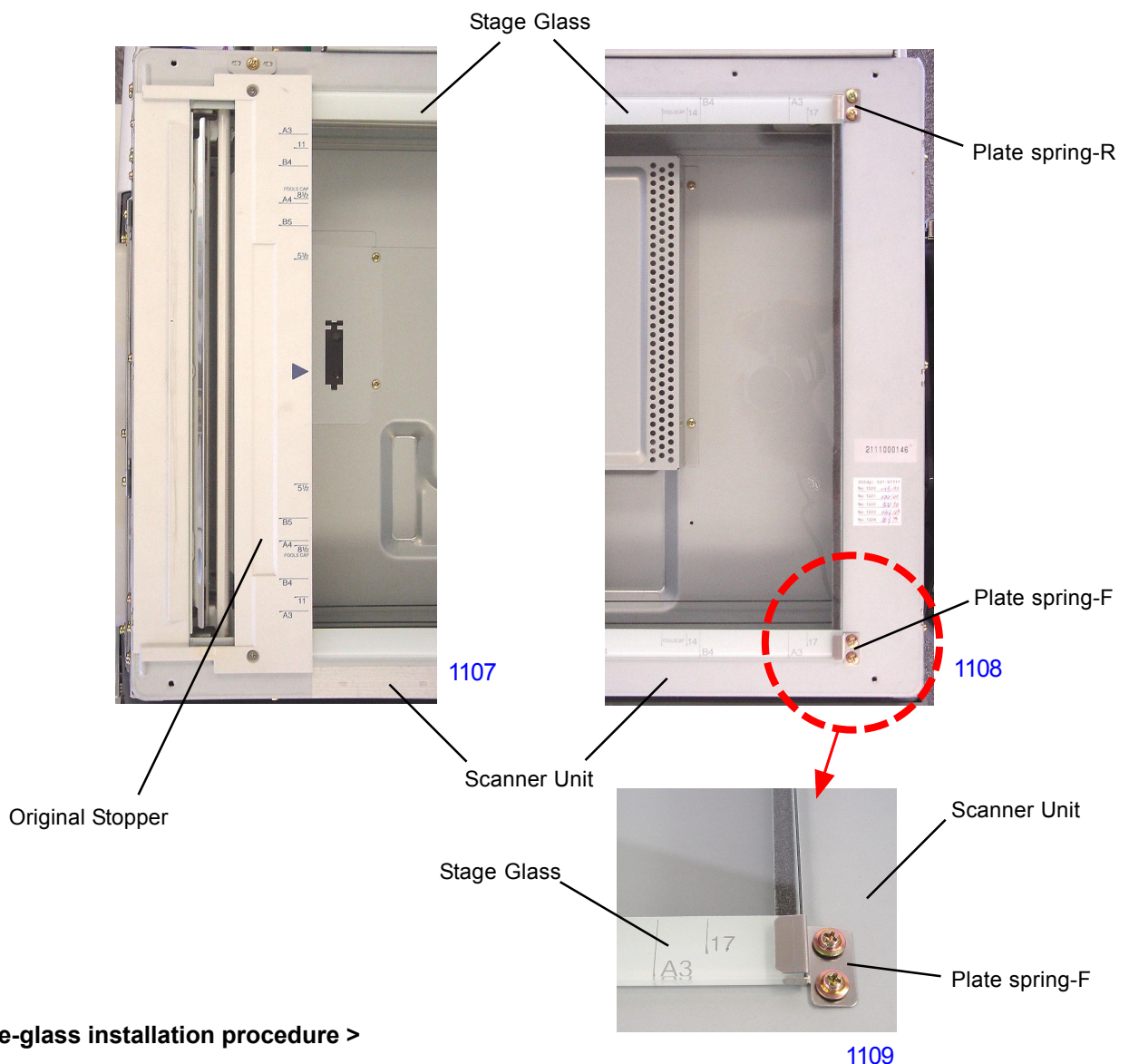
< Precautions in Assembly >

- (1) When replacing with a new scanner unit, make sure to remove the large screw which fixes the mirror carriage on the scanner unit for the transportation purpose.
- (2) Prior to reassembly, memo down the information label located on the top right of the scanner unit, listing the necessary Test Mode adjustments for the scanner unit.



2. Removing the Stage Glass

- (1) Switch off the machine power and remove the following covers.
 - Stage cover
 - Scanner cover; paper feed
 - Scanner cover; paper ejection
 - Scanner cover; rear
 - Operation panel
- (2) Remove two shoulder screws and detach the original stopper.
- (3) Detach the plate springs F & R by removing screws (M3x6: 2pcs each).
- (4) Lift and remove the stage glass.



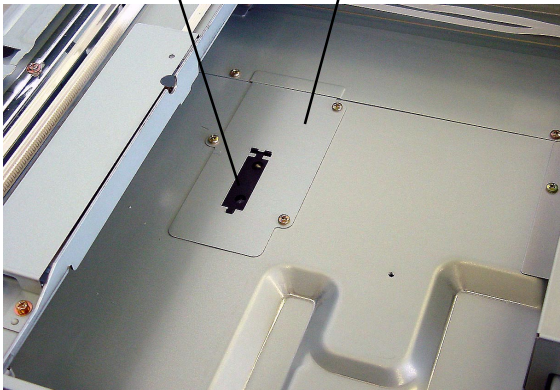
< Stage-glass installation procedure >

- (1) Put the stage glass on the scanner unit.
- (2) Install the original stopper.
- (3) Push and slide the stage glass against the original stopper.
- (4) Install the plate springs F & R, pushing tightly against the stage glass, and secure with screws.
- (5) Reinstall the covers.

3. Removing the FB Original Detection Sensor

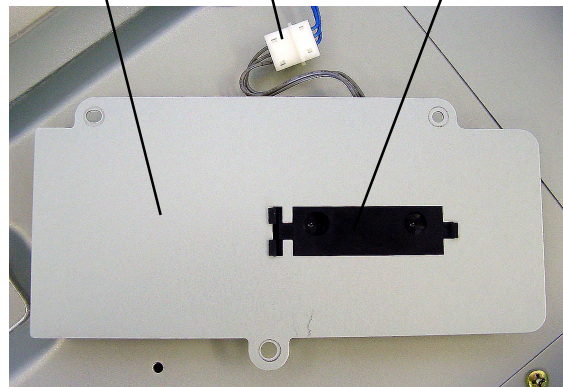
- (1) Switch off the machine power and remove the stage glass.
- (2) Remove screws (M3x6: 3pcs), lift the sensor cover with the FB original detection sensor attached. Disconnect the sensor connector and detach the FB original detection sensor together with the sensor cover.
- (3) Disengage the claws (3 locations) on the FB original detection sensor from the sensor cover to detach the sensor.

FB original detection sensor Sensor cover



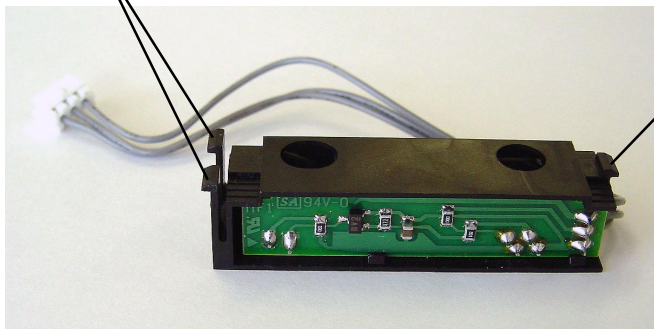
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Sensor cover Connector FB original detection sensor



1111

Sensor claws



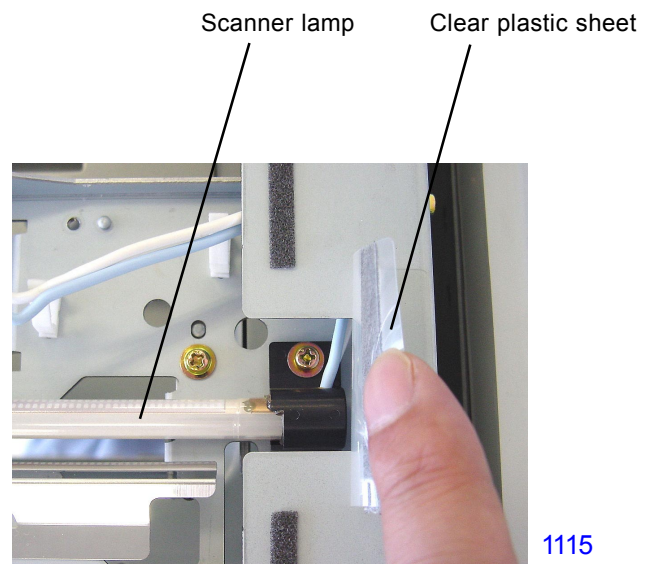
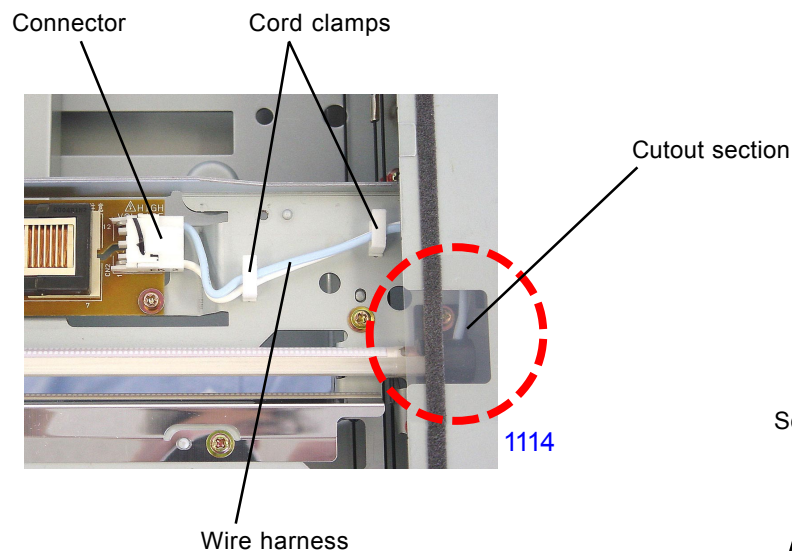
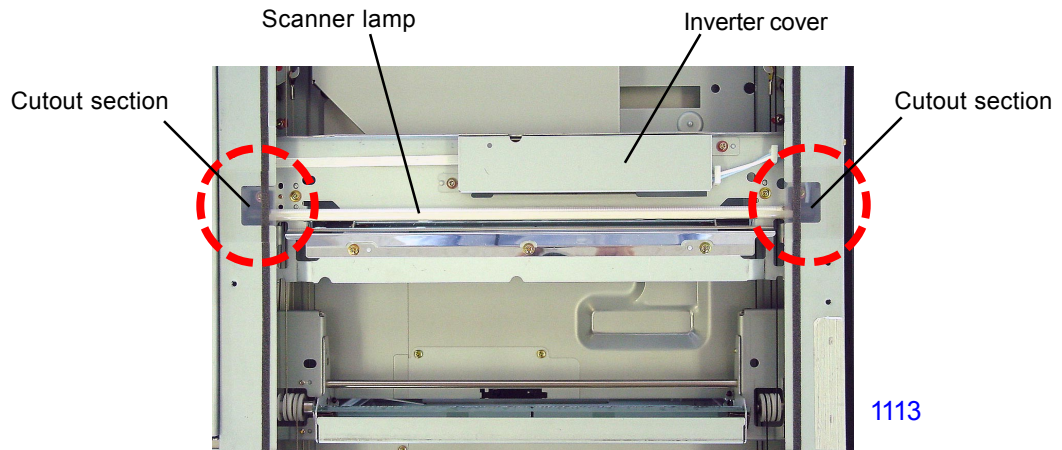
1112

< FB Original Detection Sensor >

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4. Removing the Scanner Lamp

- (1) Run Test Mode No.287 (scanner lamp replace positioning) and switch off the machine power.
- (2) Remove the stage glass.
- (3) Remove screws (M3x6: 2pcs) and detach the inverter cover.
- (4) Unhook the wire harness to the scanner lamp from the cord clamps (2 locations), and disconnect the connector from the inverter.
- (5) By lifting the clear plastic sheet on the cutout section of the scanner unit, remove screws (M3x6: 1pc each) from the both sides, and detach the scanner lamp.



5. Removing the CCD Unit

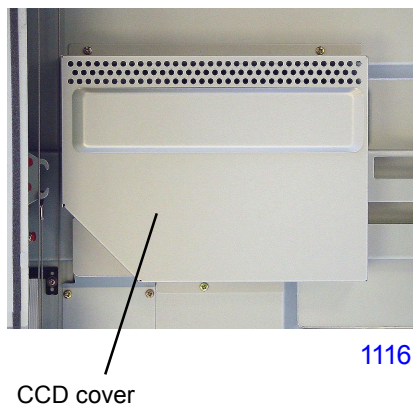
- (1) Switch off the machine power and remove the stage glass.
- (2) Remove screws (M3x6: 3pcs) and detach the CCD cover.
- (3) Disconnect the CCD cable from the CCD PCB while supporting the PCB firmly by hand.
- (4) Remove screws (M3x6: 3pcs) and detach the CCD unit.

< CCD Unit Installation Procedure >

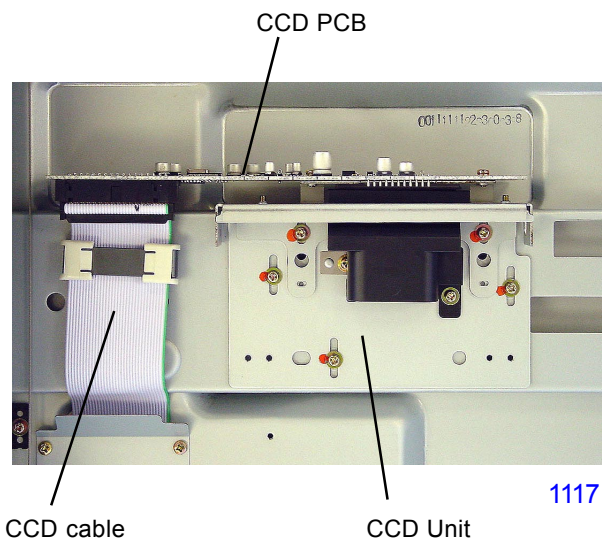
- (1) The replacement CCD unit is pre-adjusted at the factory with the positioning brackets attached on the left and right of the unit for a correct positioning. Therefore, fit the holes on the positioning brackets into the positioning pins on the scanner unit, and secure the CCD unit in place using three screws.
- (2) After the CCD unit is firmly screwed onto the scanner unit, unscrew and detach the positioning brackets off the left and right of the CCD unit.
- (3) Connect the CCD cable onto the CCD PCB while supporting the PCB firmly by hand.

< Precautions in Assembly >

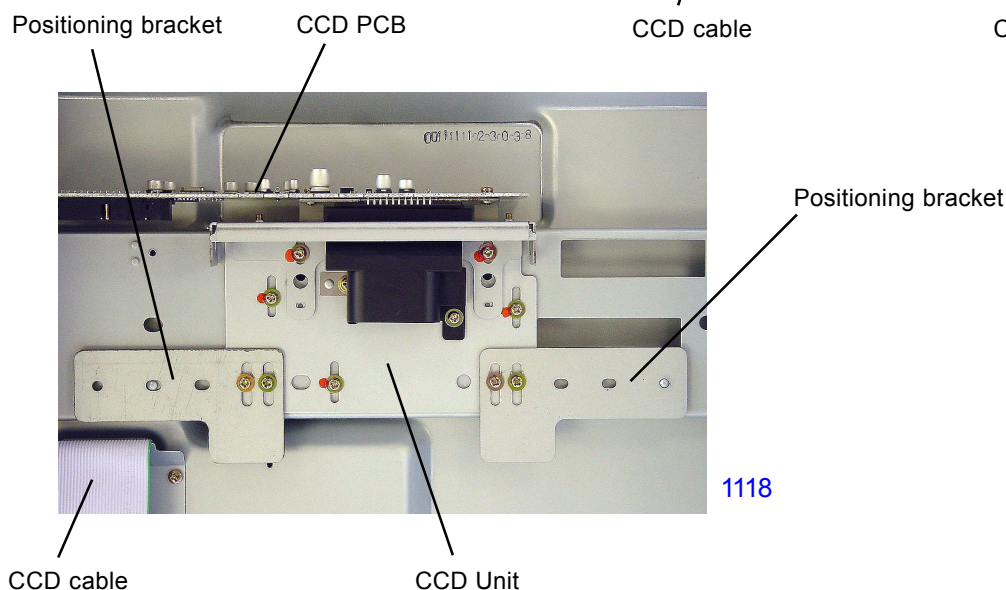
To prevent damages to the CCD PCB, firmly support the PCB by hand while connecting or disconnecting the CCD cable to the PCB.



1116



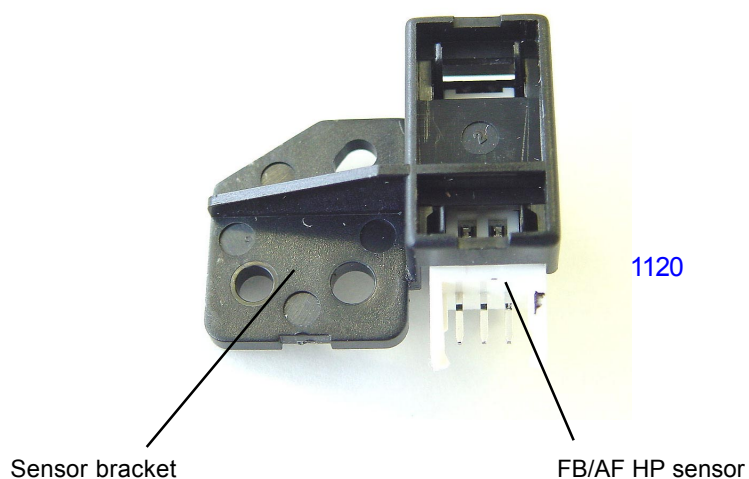
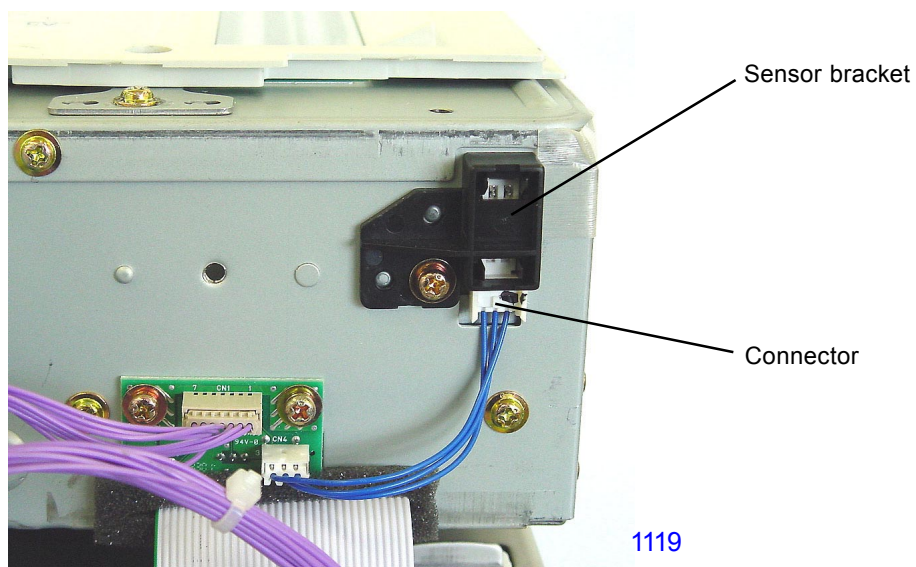
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6. Removing the FB/AF HP Sensor

- (1) Switch off the machine power and remove the scanner cover;paper feed.
- (2) Detach the FB/AF HP sensor, together with the sensor bracket, from the scanner unit by removing screw (M3x6: 1pc), and disconnect the connector to the sensor.
- (3) Disengage the claws on the FB/AF HP sensor from the sensor bracket to remove the sensor.

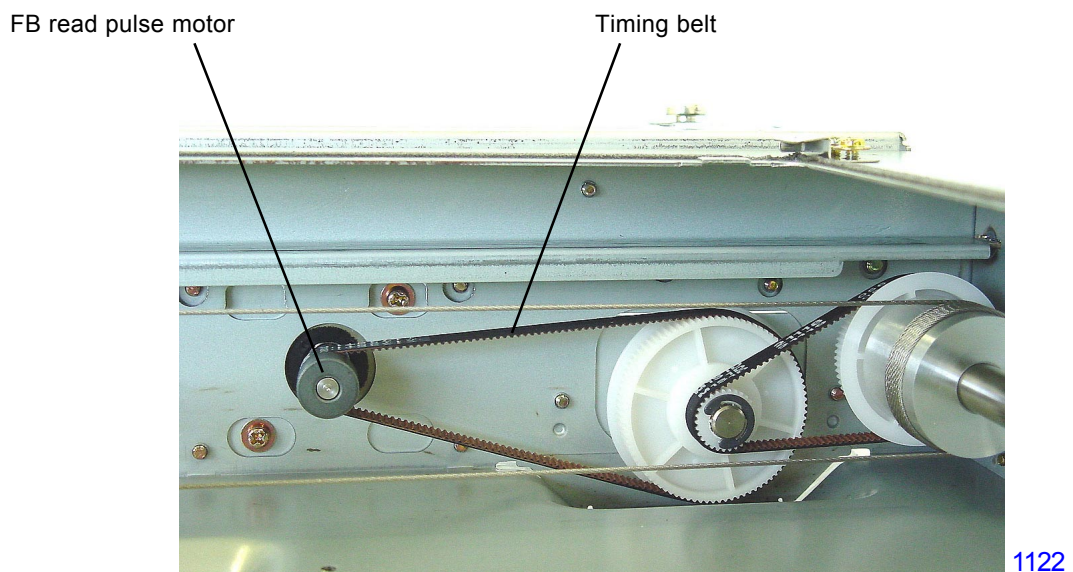
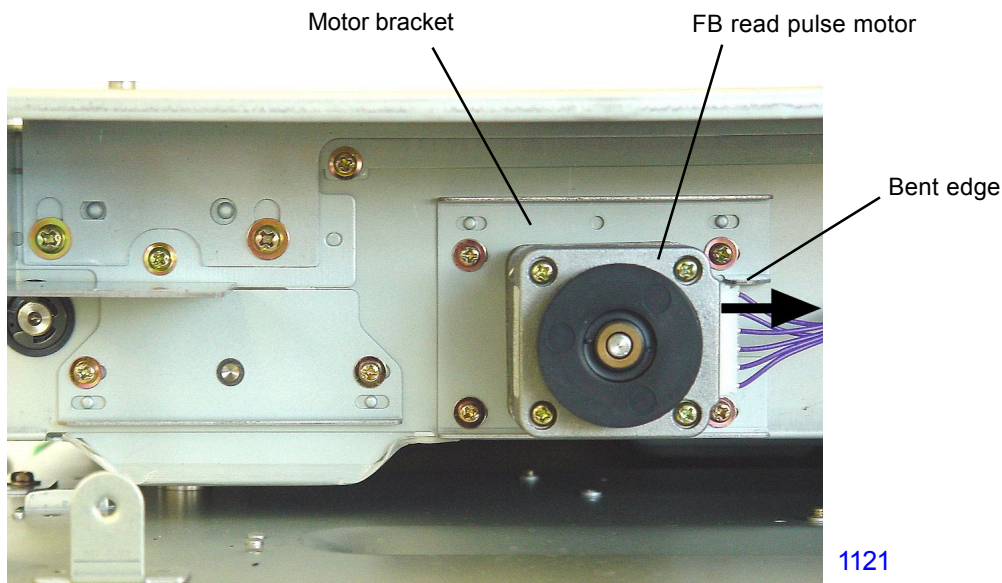


7. Removing the FB Read Pulse Motor

- (1) Switch off the machine power and remove the scanner cover; paper feed.
- (2) Remove the mounting screws (M3x6: 4pcs) of the FB read pulse motor mounting bracket, unhook the timing belt located inside the scanner unit and detach the motor with the mounting bracket attached.
- (3) Detach the FB read pulse motor from the bracket by removing screws (M3x6: 2pcs).

< Precaution in Assembly >

Pull the bent edge of the motor bracket in the direction indicated by an arrow on the photograph below to apply adequate tension to the timing belt when tightening the mounting screws of the FB read pulse motor bracket onto the scanner unit.



Adjustment

1. FB Read Pulse Motor Speed Adjustment (Image Elongation & Shrinkage in Scanning)

Checks and adjustment

- (1) Set A3-size papers on the paper feed tray and place Test Chart No.11 on the stage glass. Make a master and print.
- (2) Lay the printed paper on top of the test chart original to check that the image elongation and shrinkage, if exists, is within plus/minus 1.4% compared from the top to the 350mm line of the test chart original.
- (3) If the elongation or shrinkage is over the specified range, make an adjustment using Test Mode No. 382 (FB Scanning Speed Adjustment).

Make sure that master-making elongation/shrinkage adjustment is already made prior to this scanning adjustment.

2. FB Scan Start Position Adjustment

Checks and adjustment

- (1) Set A3-size papers on the paper feed tray and place Test Chart No.11 on the stage glass. Make a master and print.
- (2) Check the prints and confirm that 4mm plus/minus 2mm of the scaled line on top of the test chart is erased on the prints (the scanning is omitted for this distance).
- (3) If the scanning start position is out of the specified range, make an adjustment using Test Mode No. 381 (FB Scan Start Position Adjustment).

3. FB Horizontal Scan Position Adjustment

Checks and adjustment

- (1) Set A3-size papers on the paper feed tray and place Test Chart No.14 on the stage glass. Make a master and print.
- (2) Look at the master made on the print drum. Confirm that all the “e” images are made on the right and left of the master on the print drum.
- (3) If any of the “e” images are omitted, make an adjustment using Test Mode No. 380 (FB Horizontal Scan Position Adjustment).

CHAPTER 12: AF SCANNING SECTION

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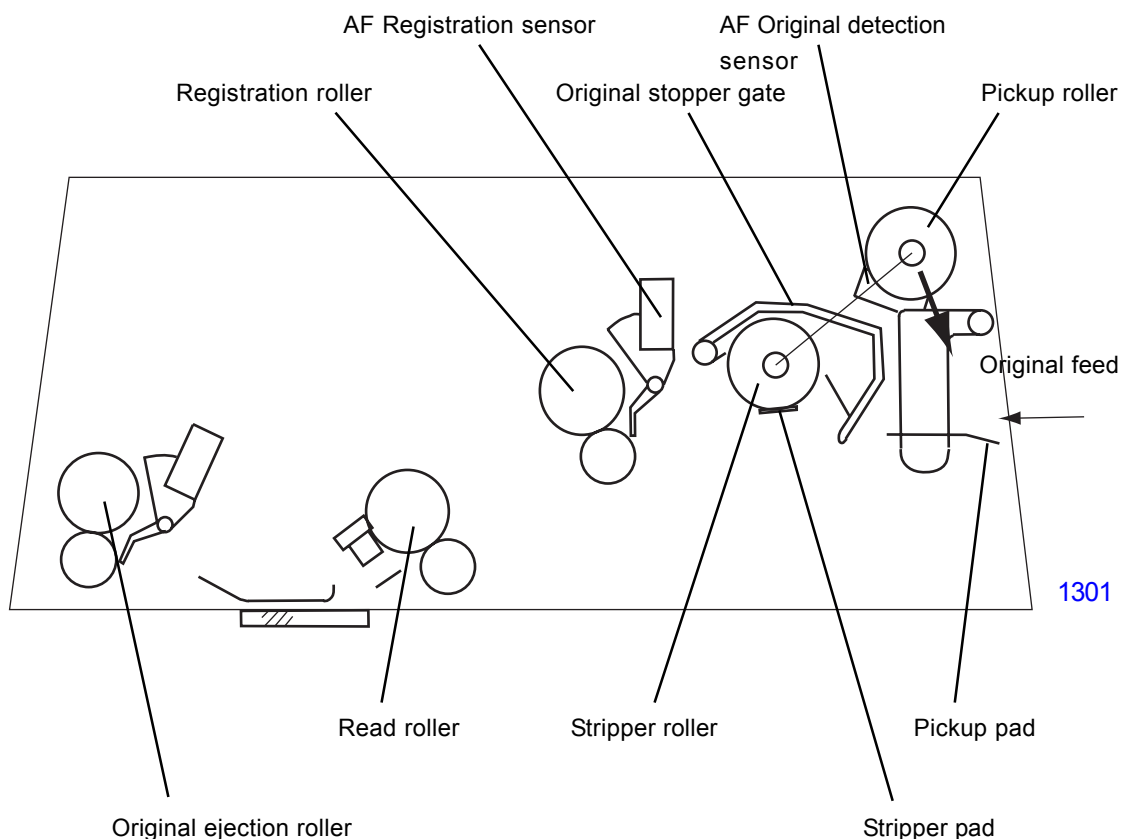
Mechanism

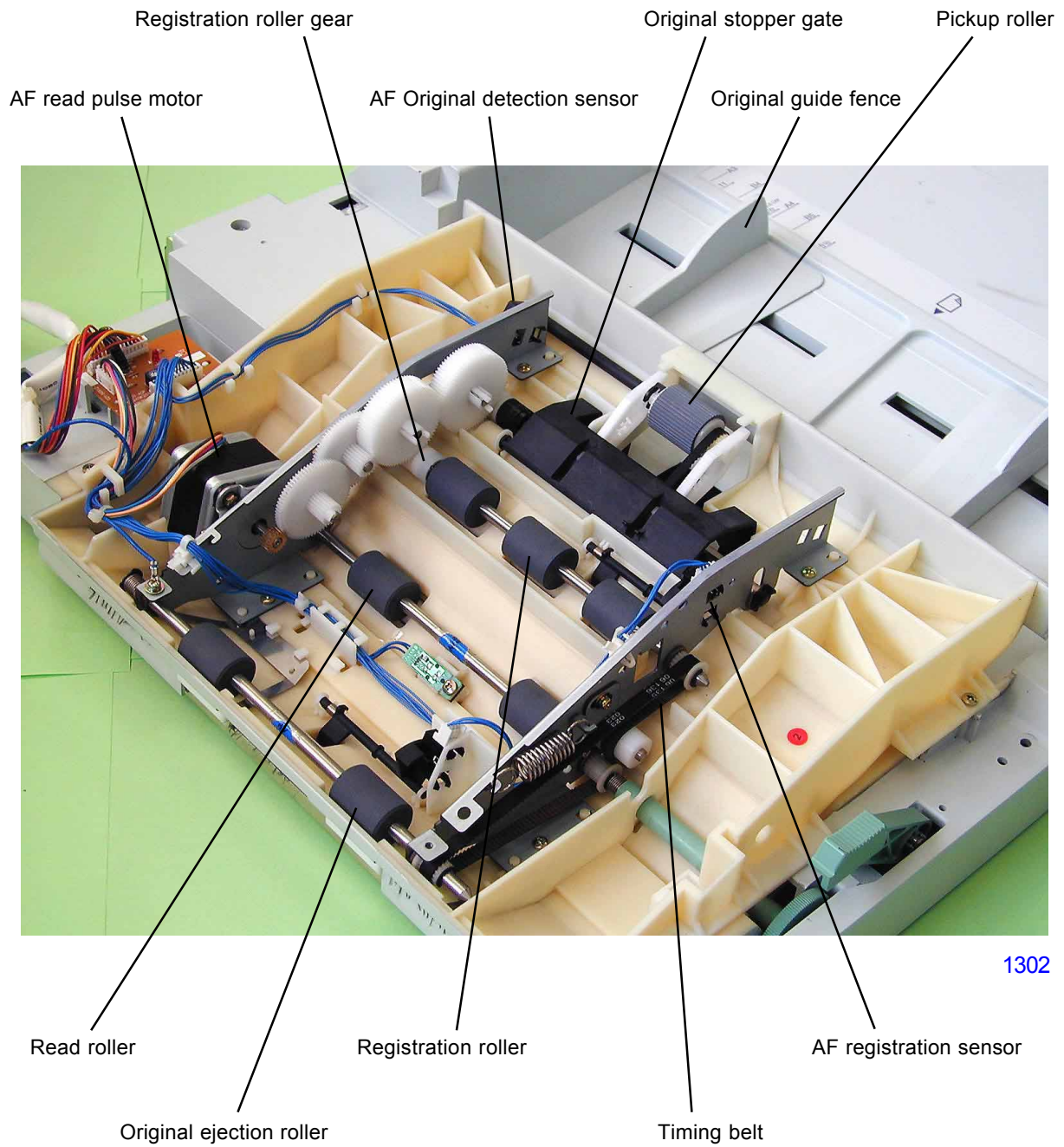
1. AF Original Set Mechanism

When the original are set along the original guide fences and the leading edge against the original stopper gate, the AF original detection sensor turns ON (receives light) and the Master/Print indication on the operation panel changes to "Master-Making". The thermal-pressure motor then turns ON to lower the TPH until the TPH pressure sensor goes ON.

After a preset interval, the AF read pulse motor activates in the clockwise direction to bring down the pickup roller and raises the original stopper gate up. (During this movement, the one-way clutch equipped between the registration roller gear and its shaft prevents the registration-roller from rotating.)

As the pickup roller comes down, the original stripper roller also comes down, and the both rollers rotates in the feed direction to advance the original. The leading edge of the original then hits the actuator of the AF registration sensor and switches the sensor ON (the actuator blocks the sensor) and continues to advance until it is stopped by the registration roller which is still not driven. The AF registration sensor, after turning ON, activates the AF read pulse motor in the counterclockwise direction to rotate the registration roller, read roller and original-ejection-gear to advance the original further forward. The feeding the of the original ends when the original has moved a total of 100 mm from the original stopper gate.





2. AF Original Scanning Mechanism (with Auto-Base Control) -- [Available only on RZ3 models]

This operation occurs only when the original scanning density is set to AUTO.

After the AF original setting operation is completed and if the Start key is pressed for the scanning operation, the scanner lamp turns ON.

The FB read pulse motor activates immediately to move the lamp carriage to the shading compensating position, and the shading compensation is done. Then the FB read pulse motor rotates the other way and brings the lamp carriage to the auto-base control scanning position (3mm + **A**mm in front of the normal AF scanning position) and stops.

At the same time, the AF read pulse motor rotates in the forward direction to bring the original 26.9mm from the point in which the AF read sensor turned ON and stops. The CCD reads the background color of the original. Then the FB read pulse motor moves the lamp carriage to the normal AF scanning position. The AF read pulse motor starts to feed the original through the AF unit and the read-signal goes ON to start the scanning. As the tail end of the original goes out of the original read sensor the read-signal goes OFF to end the scanning. (If the operator has chosen a print paper size smaller than the original, the read-signal turns OFF after scanning for that size.) After the read-signal turns OFF, the AF read pulse motor rotates at a fast speed to eject the original out. After a given period of time from the point in which the AF original ejection sensor detects the original gone out, the AF read pulse motor stops to end the AF original scanning movement.

The auto-base control function is inactive in the Photo, Duo and Dot-screening modes.

* Compensation value **A** = Test Mode No. 3071 (AF-ABC Mirror Position Adjustment).

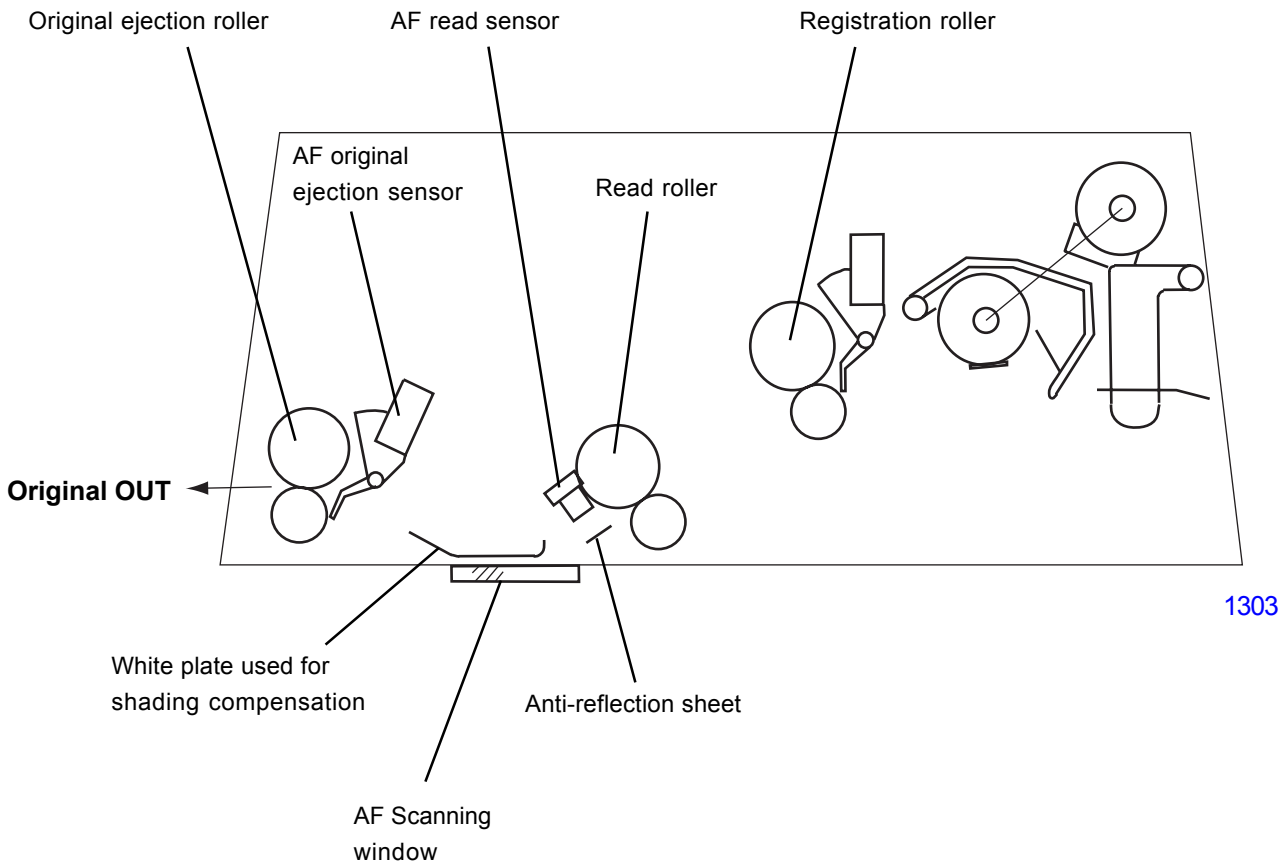
Note: ABC is an abbreviation for Auto Base Control.

3. AF Original Scanning Mechanism

After the AF original setting operation is completed and if the Start key is pressed for the scanning operation, the scanner lamp turns ON.

The FB read pulse motor activates immediately to move the lamp carriage to the shading compensating position, and the shading compensation is done. Then the FB read pulse motor rotates the other way and brings the lamp carriage to the AF scanning position and stops.

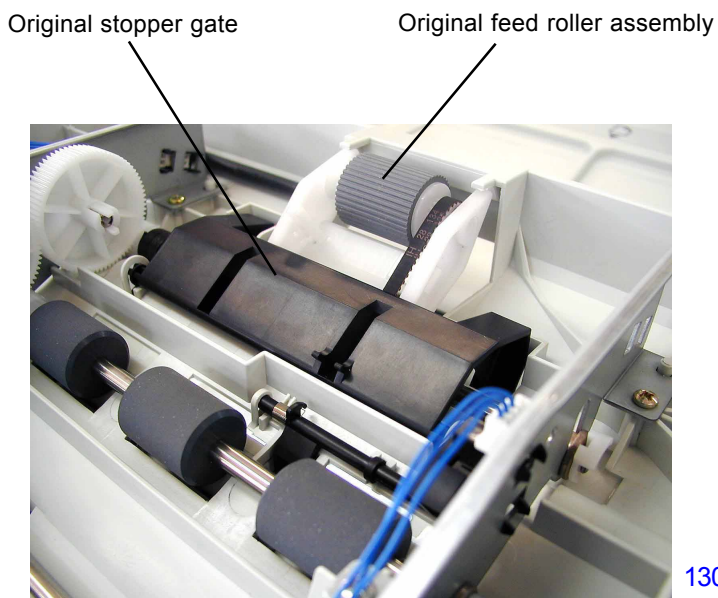
At the same time, the AF read pulse motor rotates in the forward direction to bring the original 29.9mm from the point in which the AF read sensor turned ON and stops. The AF read pulse motor starts to feed the original through the AF unit and the read-signal goes ON to start the scanning. As the tail end of the original goes out of the original read sensor the read-signal goes OFF to end the scanning. (If the operator has chosen a print paper size smaller than the original, the read-signal turns OFF after scanning for that size.) After the read-signal turns OFF, the AF read pulse motor rotates at a fast speed to eject the original out. After a given period of time from the point in which the AF original ejection sensor detects the original gone out, the AF read pulse motor stops to end the AF original scanning movement.



Disassembly

1. Removing the Original Feed Roller Assembly

- (1) Switch off the machine power and open the AF unit.
- (2) Remove screws (M3x10: 2pcs) and remove the AF cover.
- (3) Close the AF unit.
- (4) Remove the snap ring from the both ends of the original feed roller assembly and remove the metal bushings. Detach the original feed roller assembly by lifting the original stopper gate out of the way.



< Original Feed Roller Assembly >

Snap ring

Metal bushing

Metal bushing

Snap ring

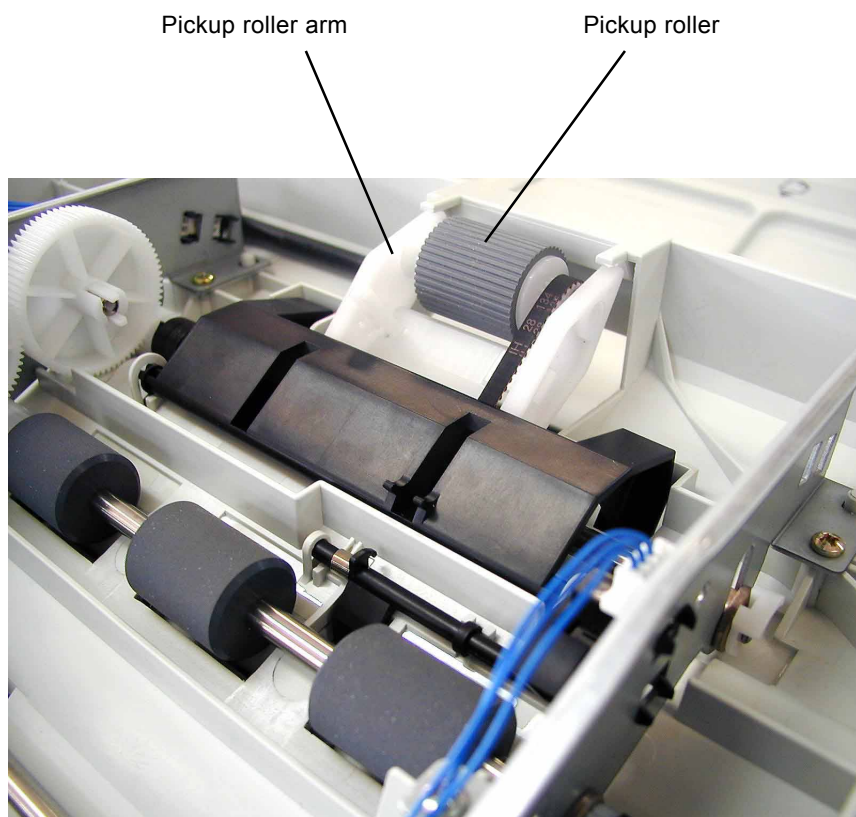
2. Removing the Pickup Roller

- (1) Switch off the machine power and open the AF unit.
- (2) Remove the AF cover and close the AF unit.
- (3) Detach the pickup roller by spreading out the tip of pickup-roller-arm by hand.

* Do not lose the plastic washer mounted next to the gear of the pickup roller.

< Precaution on Assembly >

Do not forget to mount the plastic gear next to the gear of the pickup roller.



1307

3. Removing the Original Stripper Roller

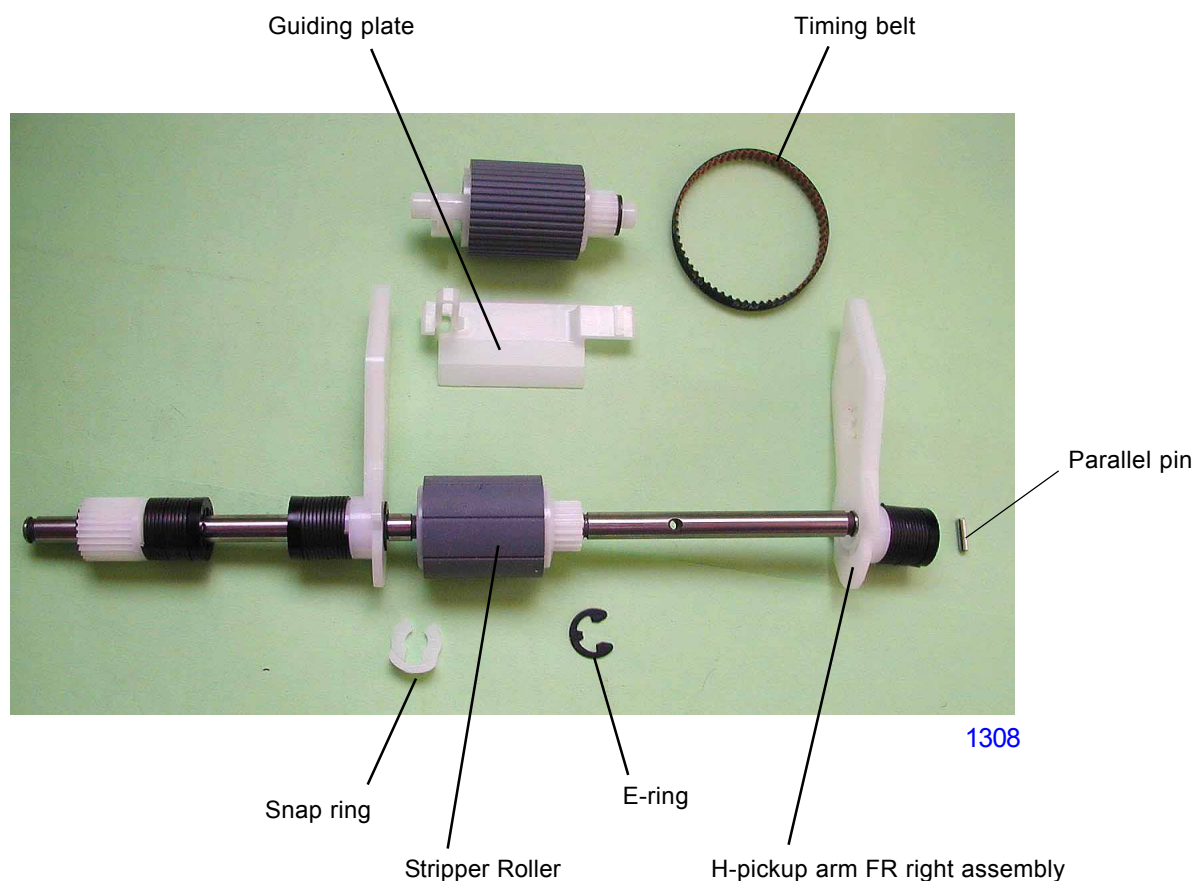
- (1) Switch off the machine power and open the AF unit.
 - (2) Remove the AF cover and close the AF unit.
 - (3) Remove the original feed roller assembly.
 - (4) Remove the pickup roller.
 - (5) Remove the guiding plate.
 - (6) Remove the snap ring from the left of the stripper roller and slide the stripper roller to the left. Then remove the E-ring on the right of the snap ring.
 - (7) Temporarily slide the H-pick arm FR right assembly to the left, and pull out the parallel pin.
 - (8) Remove the H-pick arm FR right assembly and the stripper roller from the shaft.
- * Be careful not to drop the washer mounted on the gear side of the stripper roller.

< Precaution in Assembly >

The original stripper roller must be installed with the correct orientation. Be sure to position the gear of the original stripper roller to the right as shown on the photograph below.

Install the washer on the gear side of the Original stripper roller.

When joining the parallel pin onto the H-pickup arm FR right assembly, be sure to insert it into the shallower groove of the H-pick arm FR right assembly.



4. Removing the AF Original Detection Sensor, AF Read Sensor and AF Original Ejection Sensor

- (1) Switch off the machine power and open the AF unit.
- (2) Remove the AF cover and close the AF unit.

Removing the Original Detection Sensor

- (3) Disconnect the connector and release the actuator, and remove the AF Original detection sensor.

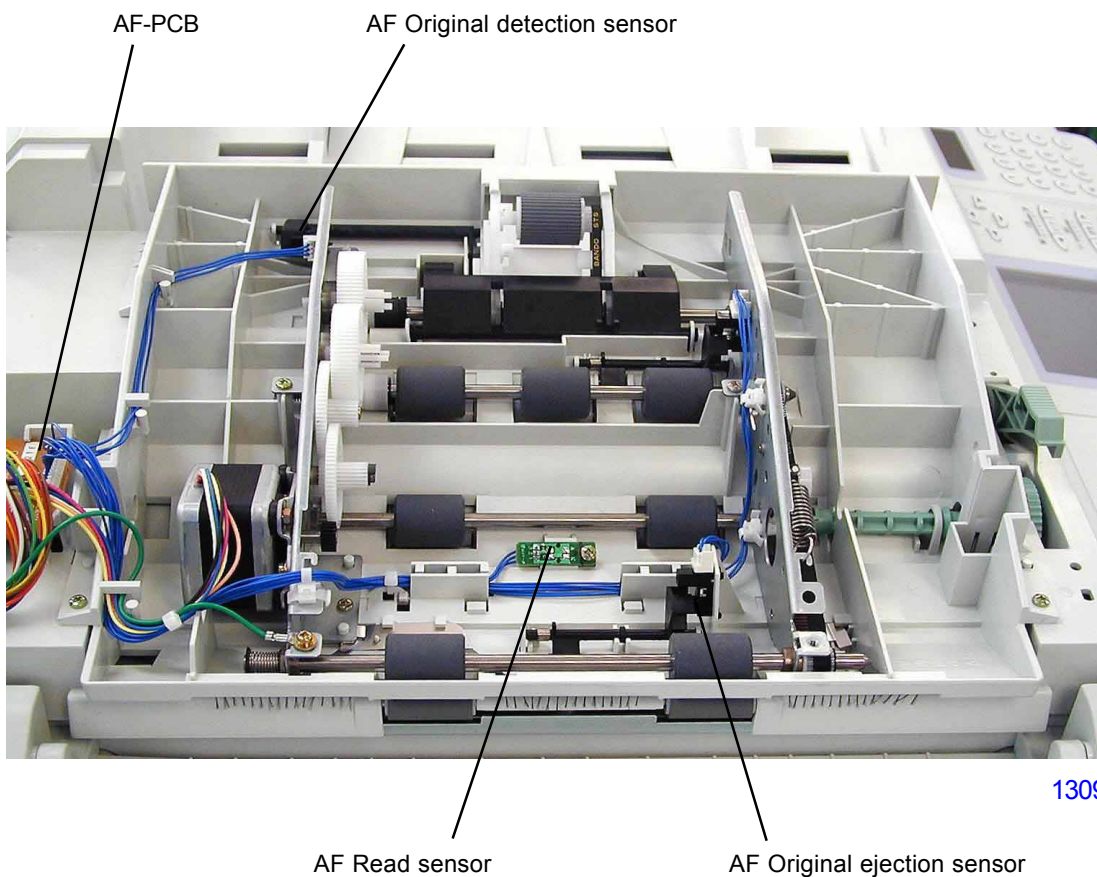
Removing the AF Read Sensor

- (3) Disconnect the connector to the sensor, remove a screw (M3x10: 1pc) and remove the AF read sensor.

* Following the reassembly, rotate the variable resistor VR1 on top of the AF-PCB to adjust LED 1 to the maximum brightness.

Removing the AF Original Ejection Sensor

- (3) Disconnect the connector to the sensor, release the actuator and remove the AF Original ejection sensor.



5. Removing the AF Read Pulse Motor

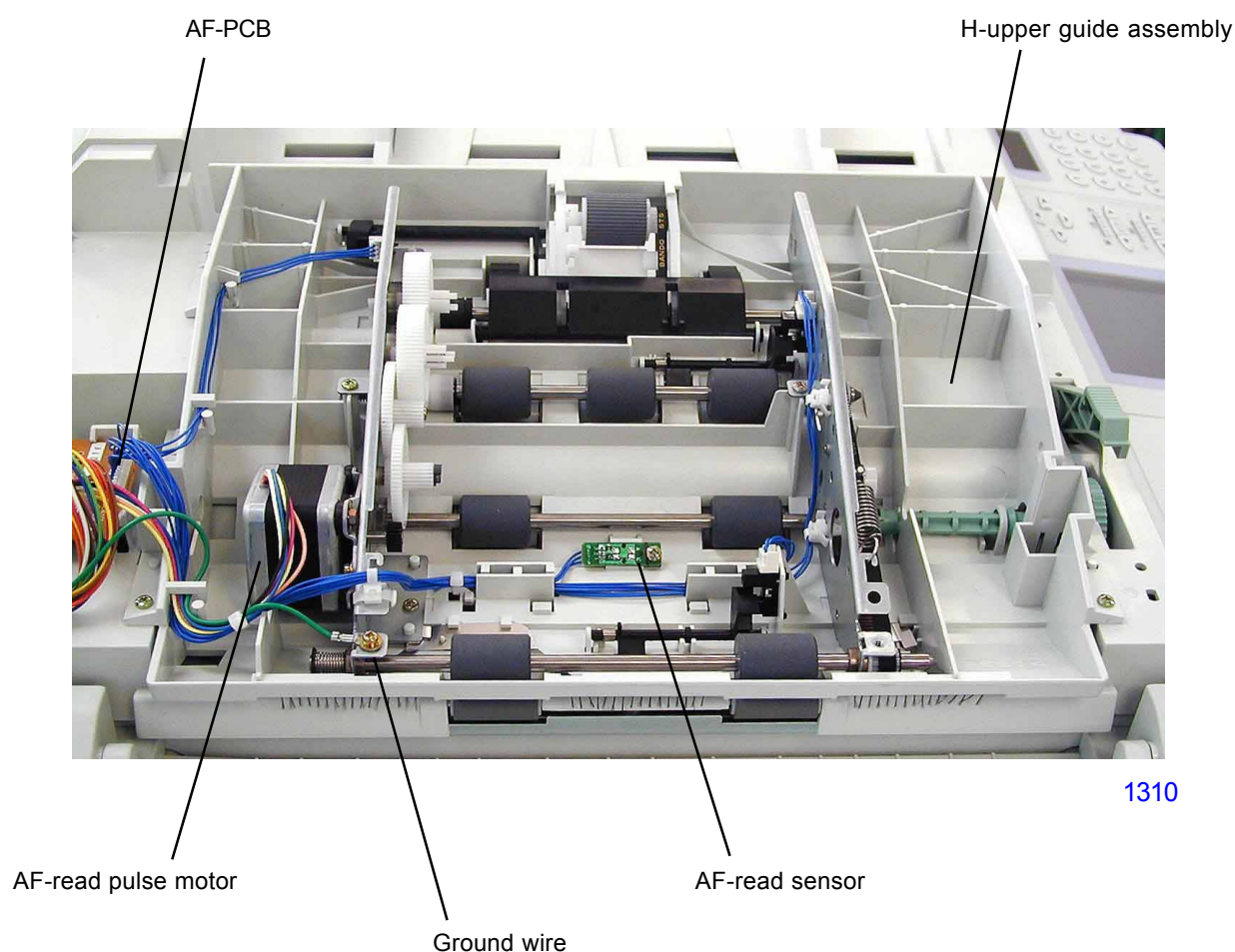
- (1) Switch off the machine power and open the AF unit.
- (2) Remove the AF cover and close the AF unit.
- (3) Disconnect the AF-PCB connectors CN1 and CN3. Then remove the ground wire by removing a screw (M3x6: 1pc).

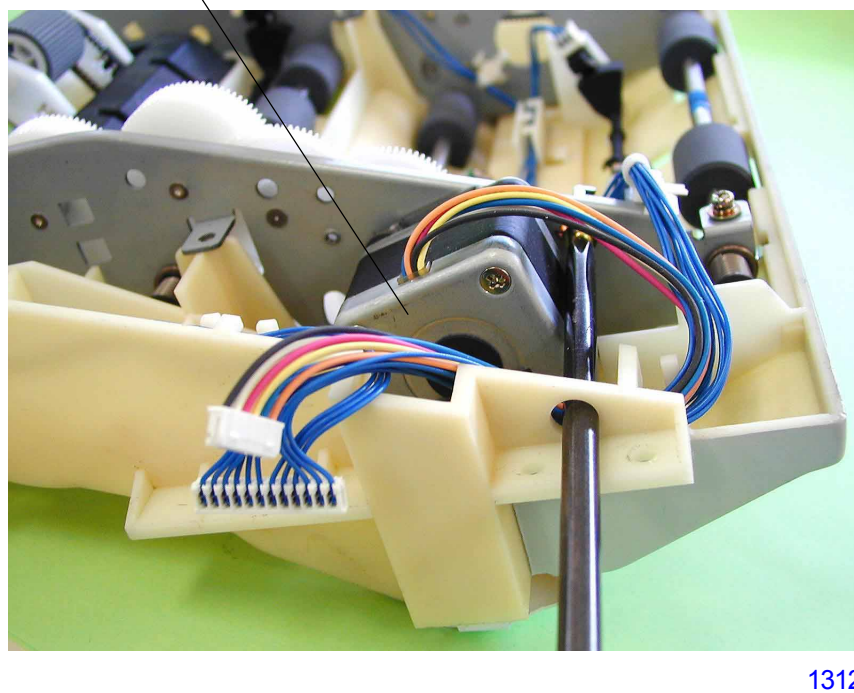
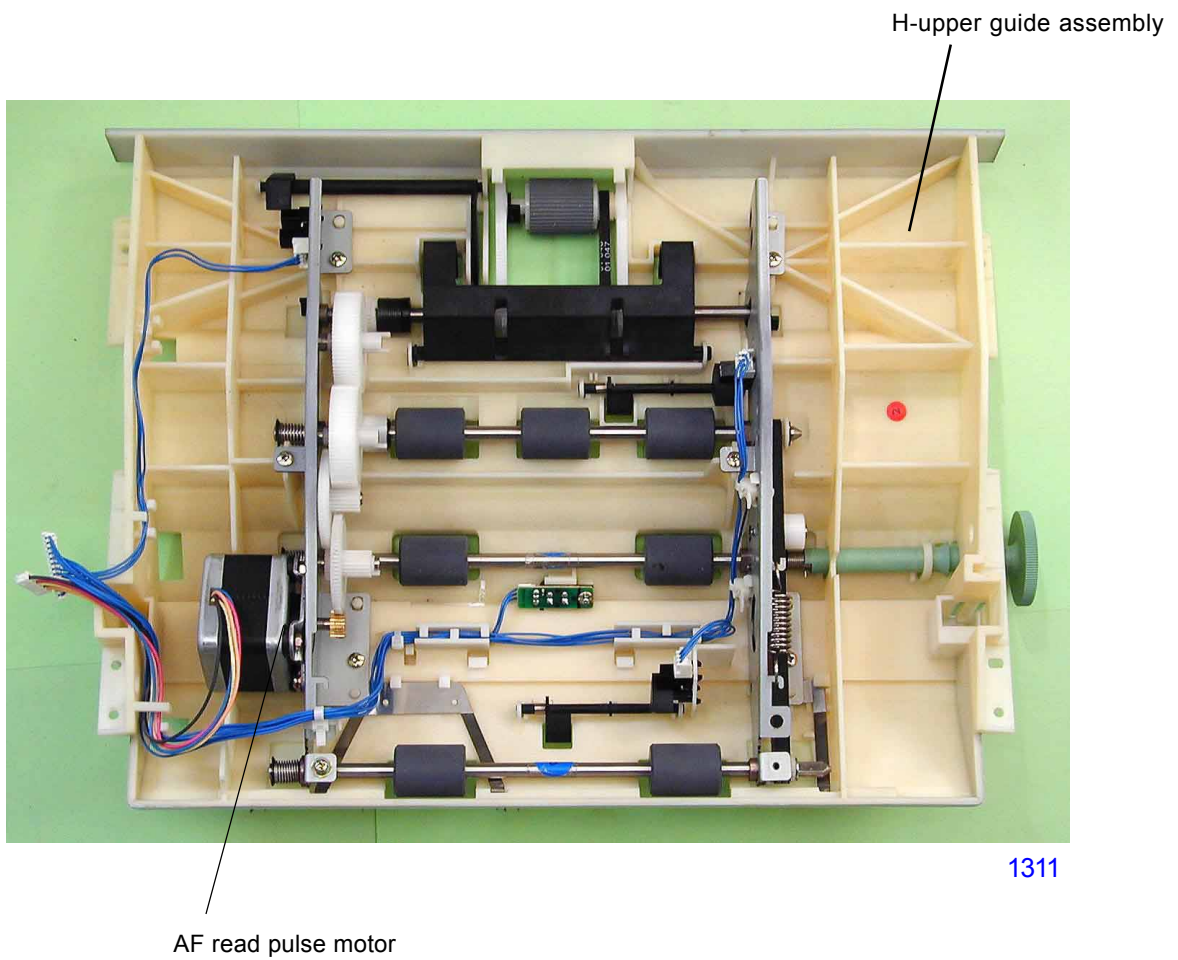
* Be careful not to drop the lock washer located under the ground wire.

- (4) Remove screws (M3x6: 4pcs) and remove the H-upper guide assembly.
- (5) Remove screws (M3x6: 2pcs) and remove the AF read pulse motor.

< Precautions on Reassembly >

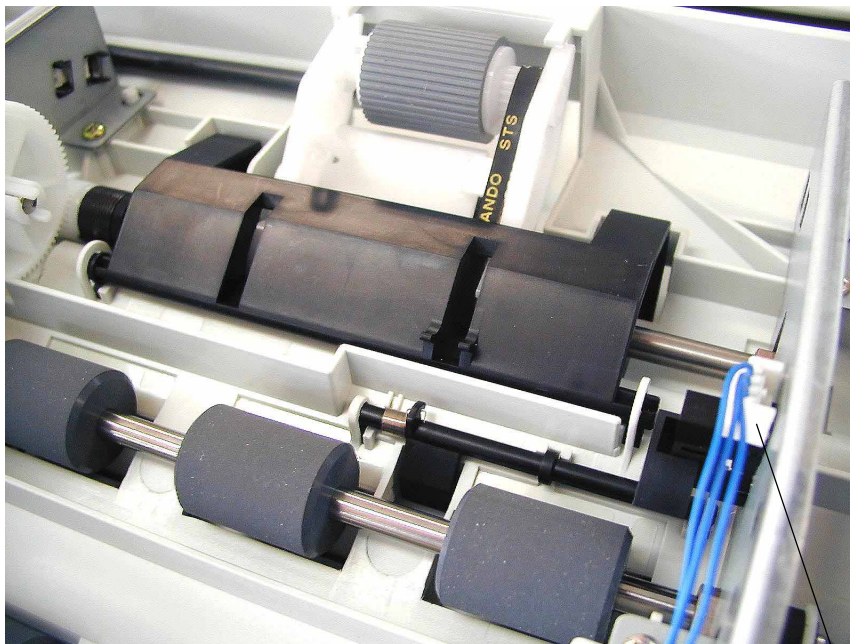
- When installing the ground wire, do not forget to install the lock washer under the ground wire.
- Following the install of H-upper guide assembly, adjust the AF read sensor (rotate the variable resistor VR1 on top of the AF-PCB to adjust LED 1 to the maximum brightness).





6. Removing the AF Registration Sensor

- (1) Switch off the machine power and open the AF unit.
- (2) Remove the AF cover and close the AF unit.
- (3) Disconnect the connector, move the actuator to the left while lifting it up and then remove the AF registration sensor.



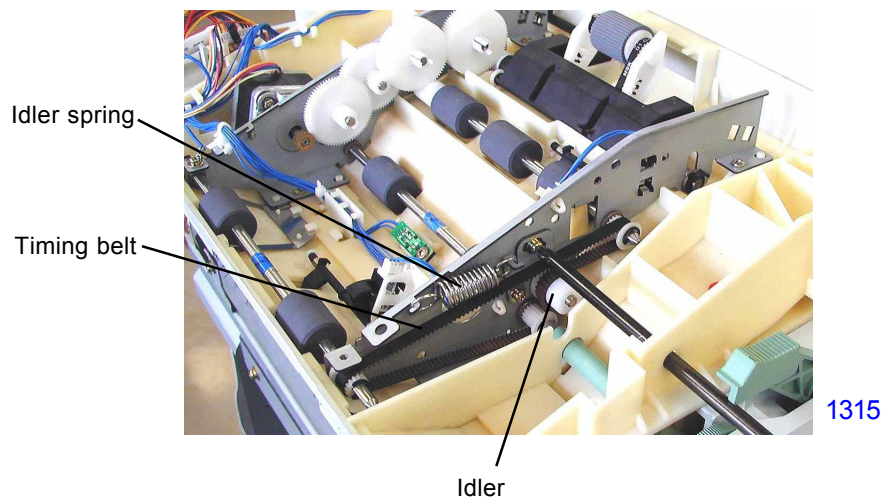
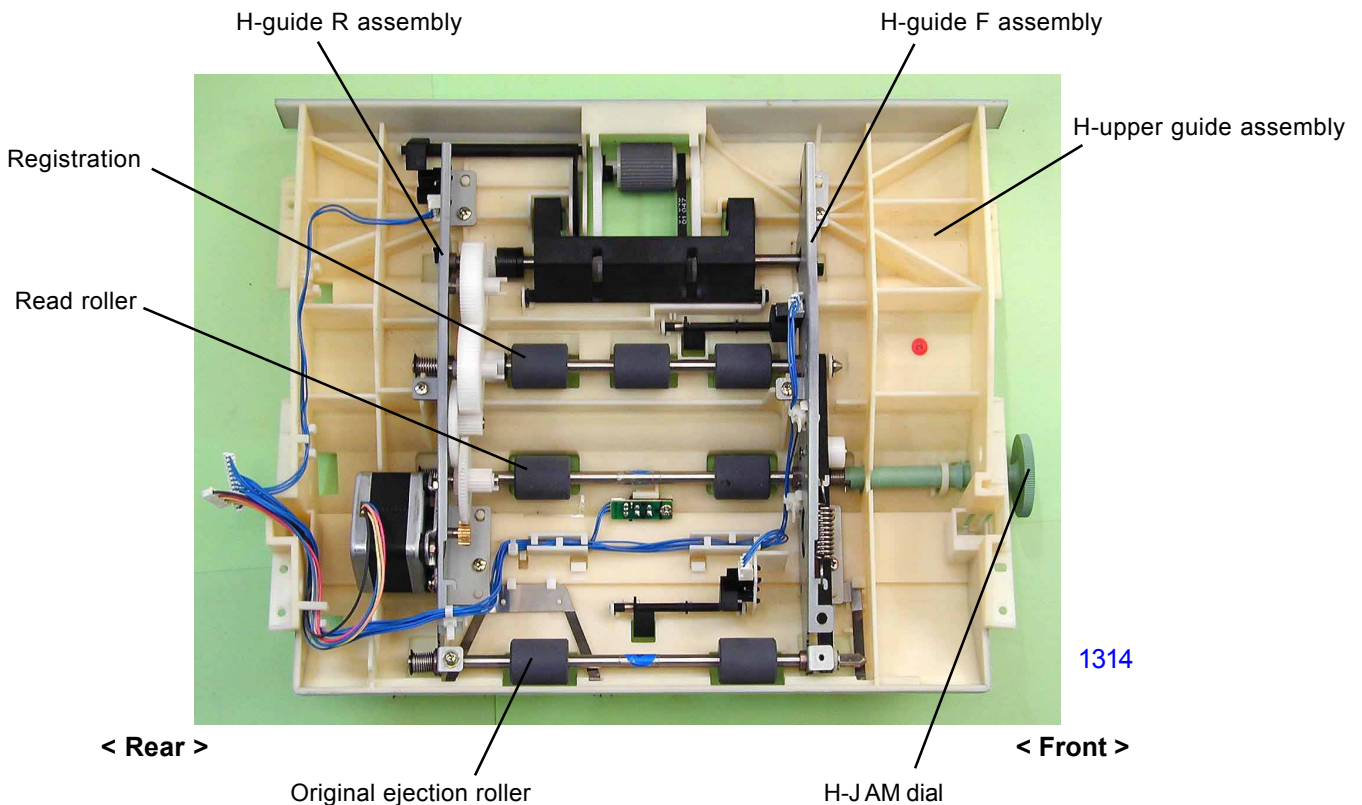
1313

AF registration sensor

7. Removing the Registration Roller, Read Roller and Original Ejection Roller

- (1) Switch off the machine power and open the AF unit.
 - (2) Remove the AF cover and close the AF unit.
 - (3) Disconnect the AF-PCB connectors CN1 and CN3. Then remove the ground wire by removing a screw (M3x6: 1pc).
- * Be careful not to drop the lock washer located under the ground wire.
- (4) Remove screws (M3x6: 4pcs) and remove the H-upper guide assembly.
 - (5) Pull out the H-JAM dial by lifting it up towards the left.
 - (6) Remove the idler spring and loosen the two idler screws to loosen the timing belt tension.
 - (7) Remove the H-guide F & R assemblies by removing screws (M3x10: 3pcs each).

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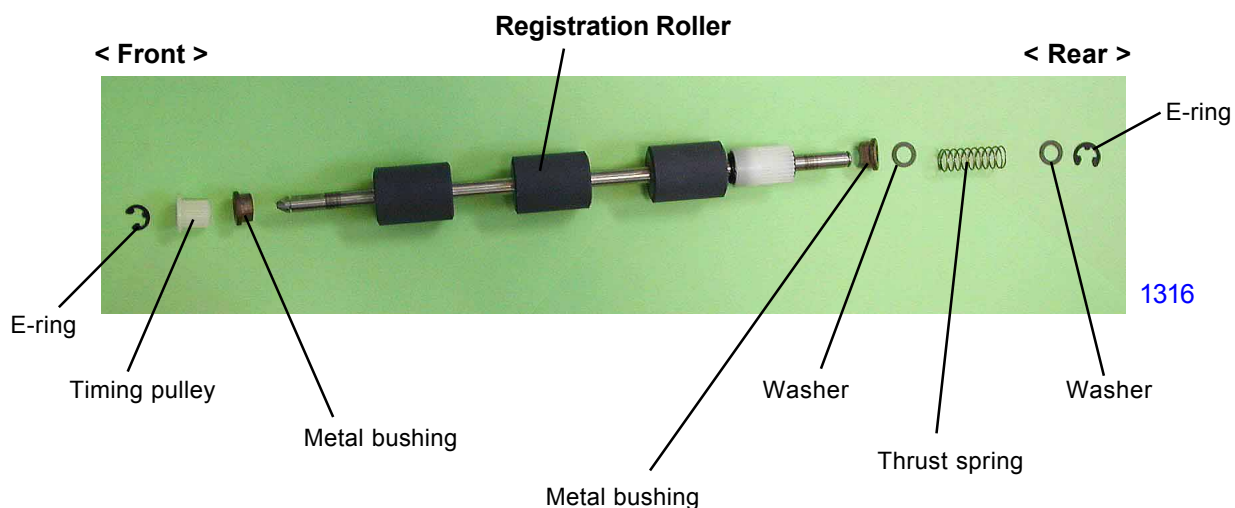


Removing the registration roller

(8) Remove the E-rings, timing pulley, washers, thrust spring and metal bushings off the registration roller.

* Be careful that the washer and the thrust spring may fly out of the roller shaft when the E-ring is removed.

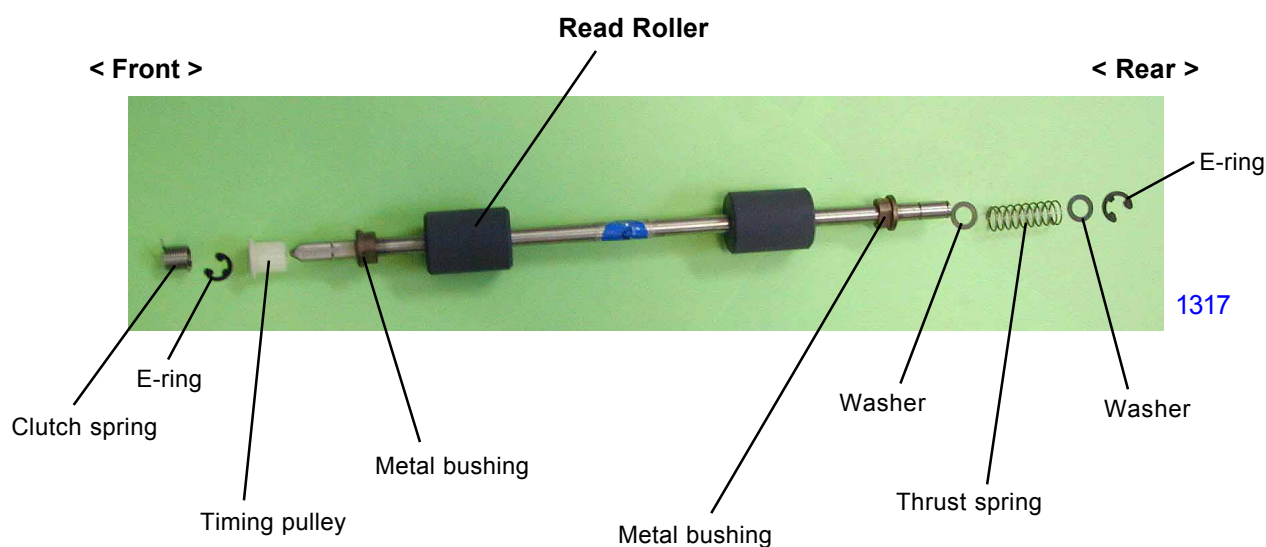
- Refer to the precaution in reassembly at the bottom of next page -

**Removing the read roller**

(8) Remove the clutch spring, E-ring, timing pulley and metal bushing from the front side of the read roller. Then remove the E-ring, washers, thrust spring, washer and metal bushing from the rear side of the roller.

* Be careful that the washer and the thrust spring may fly out of the roller shaft when the E-ring is removed.

- Refer to the precaution in reassembly at the bottom of next page -

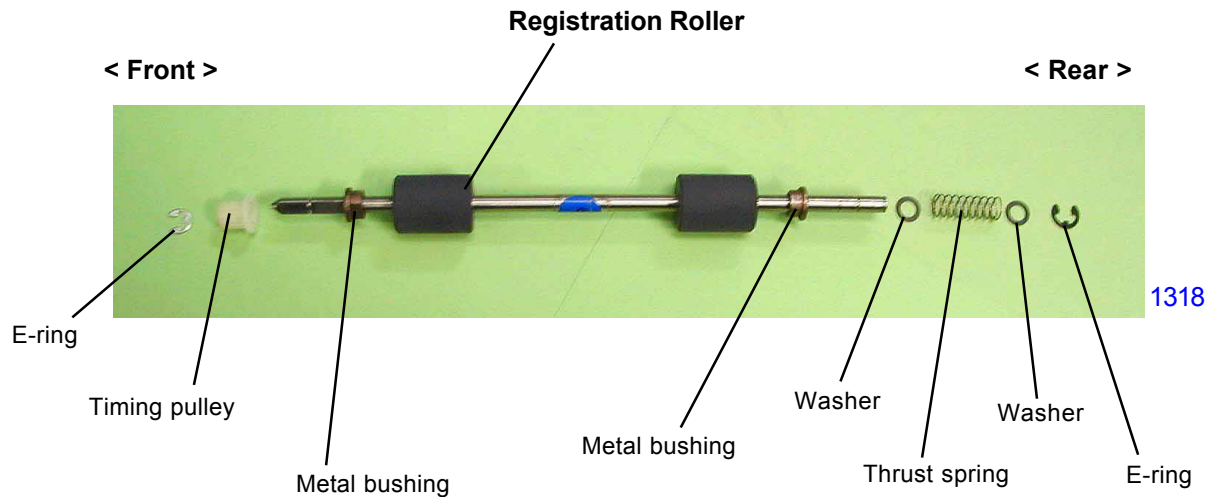


Removing the original ejection roller

- (8) Remove the E-ring, timing pulley and metal bushing from the front side of the original ejection roller. Then, remove the E-ring, washers, thrust spring and metal bushing from the rear side of the roller.

* Be careful that the washer and the thrust spring may fly out of the roller shaft when the E-ring is removed.

- Refer to the precaution in reassembly at the bottom of this page -



< Precautions in Reassembly >

[for the Registration Roller, Read Roller and Original Ejection Roller]

- Install the washers on both ends of the thrust spring on the rear side of each roller and then hook the E-ring.
- Make sure that the flanges on the timing pulley faces the correct direction on each roller.

Adjustment

1. AF Read Pulse Motor Speed Adjustment (Image elongation & shrinkage control in AF scanning)

Checks and adjustment

- (1) Set A3-size paper in the paper-feeding tray, place Test Chart No.11 on the AF unit, make a master and print.
- (2) Lay the print on top of the original to confirm that the image elongation or shrinkage is within plus or minus 1.4% from the top to the 350mm line of the test chart image.
- (3) If the image elongation or shrinkage is out of this specification, make an adjustment using Test Mode No. 3074 (AF Scanning Speed Adjustment).

* Prior to the adjustment, finish the image elongation and shrinkage in master-making first.

2. AF Scan Start Position Adjustment

Checks and adjustment

- (1) Set A3-size paper on the paper-feeding tray, place Test Chart No.11 on the AF unit, make a master and print.
- (2) Check the prints and confirm that 5mm (plus or minus 2mm) of the top scan skip check graduations is skipped.
- (3) If the scan start position is out of the specified parameter, make an adjustment using Test Mode No. 3073 (AF Scan Start Position Adjustment).

3. AF Horizontal Scan Position Adjustment

Checks and adjustment

- (1) Set A3-size paper in the paper-feeding tray. Using the AF unit, place Test Chart No.14 on the AF unit and make a master.
- (2) Check the master created on the print drum. Confirm that none of the "e" images on the left and right of the original is not omitted.
- (3) If any "e" image is omitted, make an adjustment using Test Mode No.3072 (AF Horizontal Scan Position Adjustment).

4. AF Read Sensor Sensitivity Adjustment

Checks and adjustment

- (1) Switch off the machine power and open the AF unit.
- (2) Remove the AF cover and close the AF unit.
- (3) Turn the variable resistor VR-1 on top of the AF-PCB to adjust LED1 to the maximum brightness.

Checks after adjustment

- Check that LED1 on top of the AF-PCB goes off when an original (normal white paper) is detected by the AF read sensor.

CHAPTER 13: MASTER MAKING SECTION

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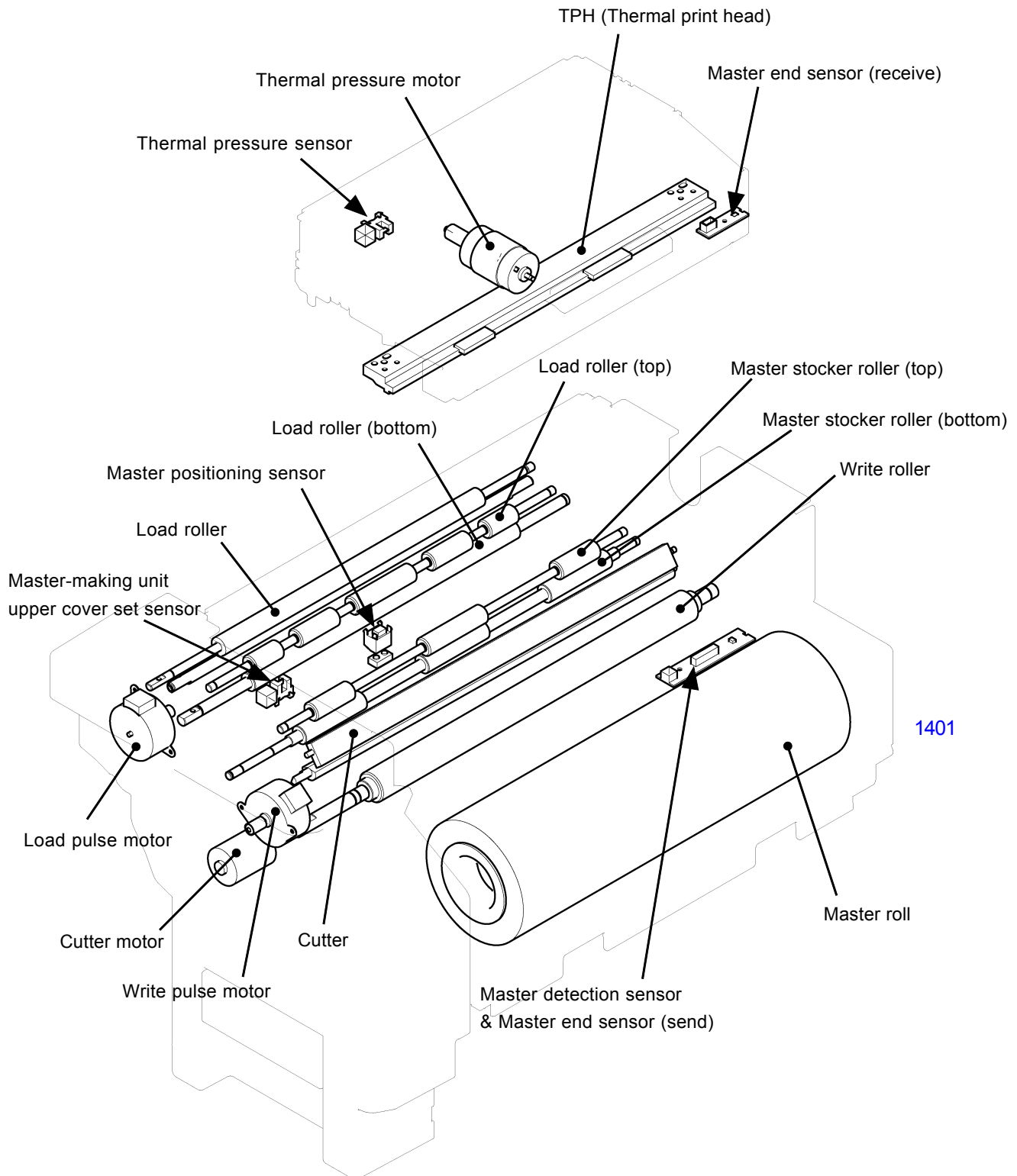
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Mechanism

1. Master Making Unit Components



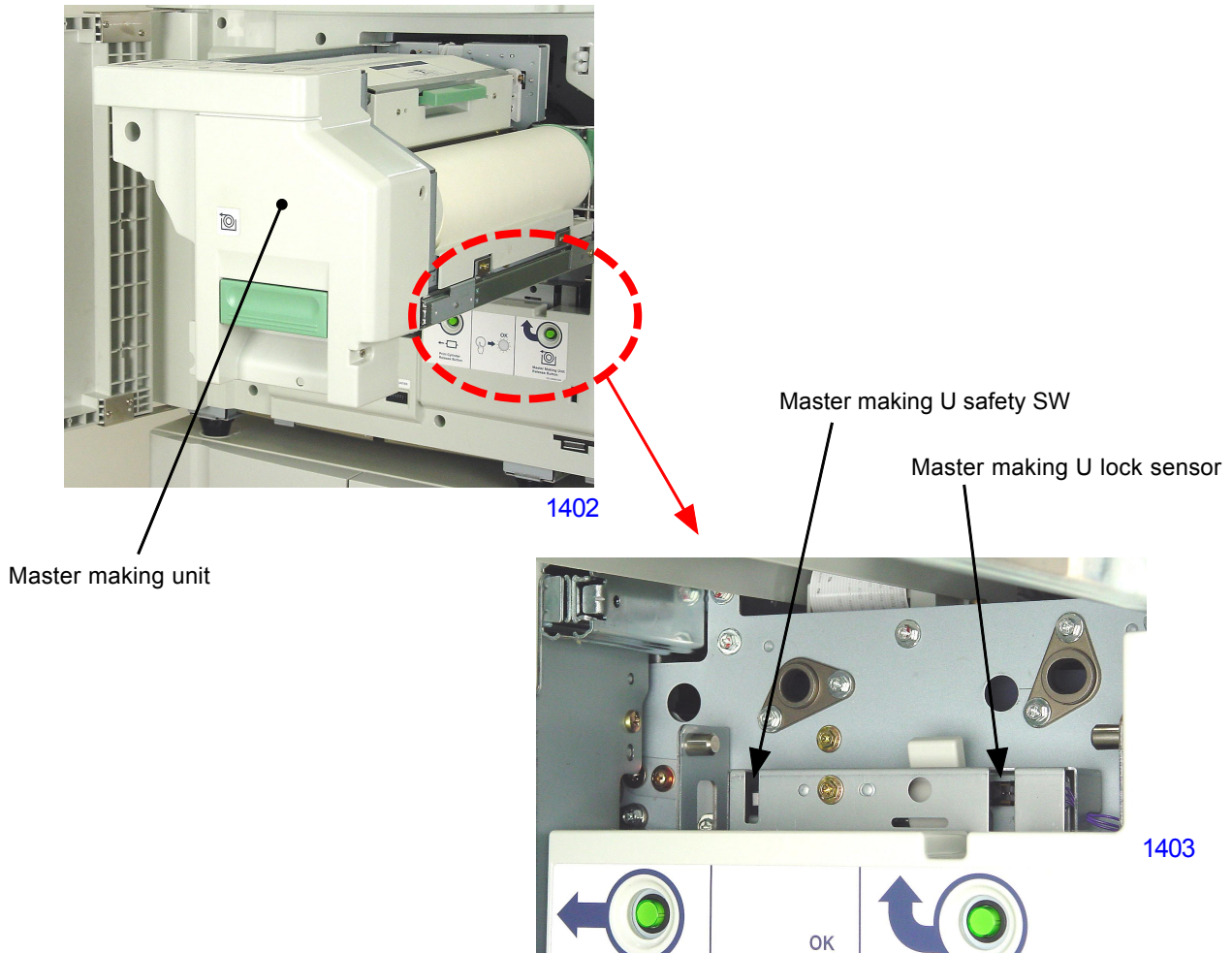
2. Set Detection Mechanism

Master making unit set detection mechanism

As flatbed section cannot be opened or closed, the unit has a mechanism in which the master making unit can be pulled out.

The pulling out and insertion of the master making unit are conducted at print drum position-B stop position. The master making U safety switch and the master making U lock sensor confirm that the master making unit is set.

When the master making U safety switch turns OFF, the main motor, clamp motor, master removal compression motor and master removal transport motor are electrically designed not to activate.



The master making unit upper cover detection mechanism

The master making unit upper cover set sensor confirms that the master making unit upper cover is set, and the master setting operation is performed once the cover is set.

Master end detection

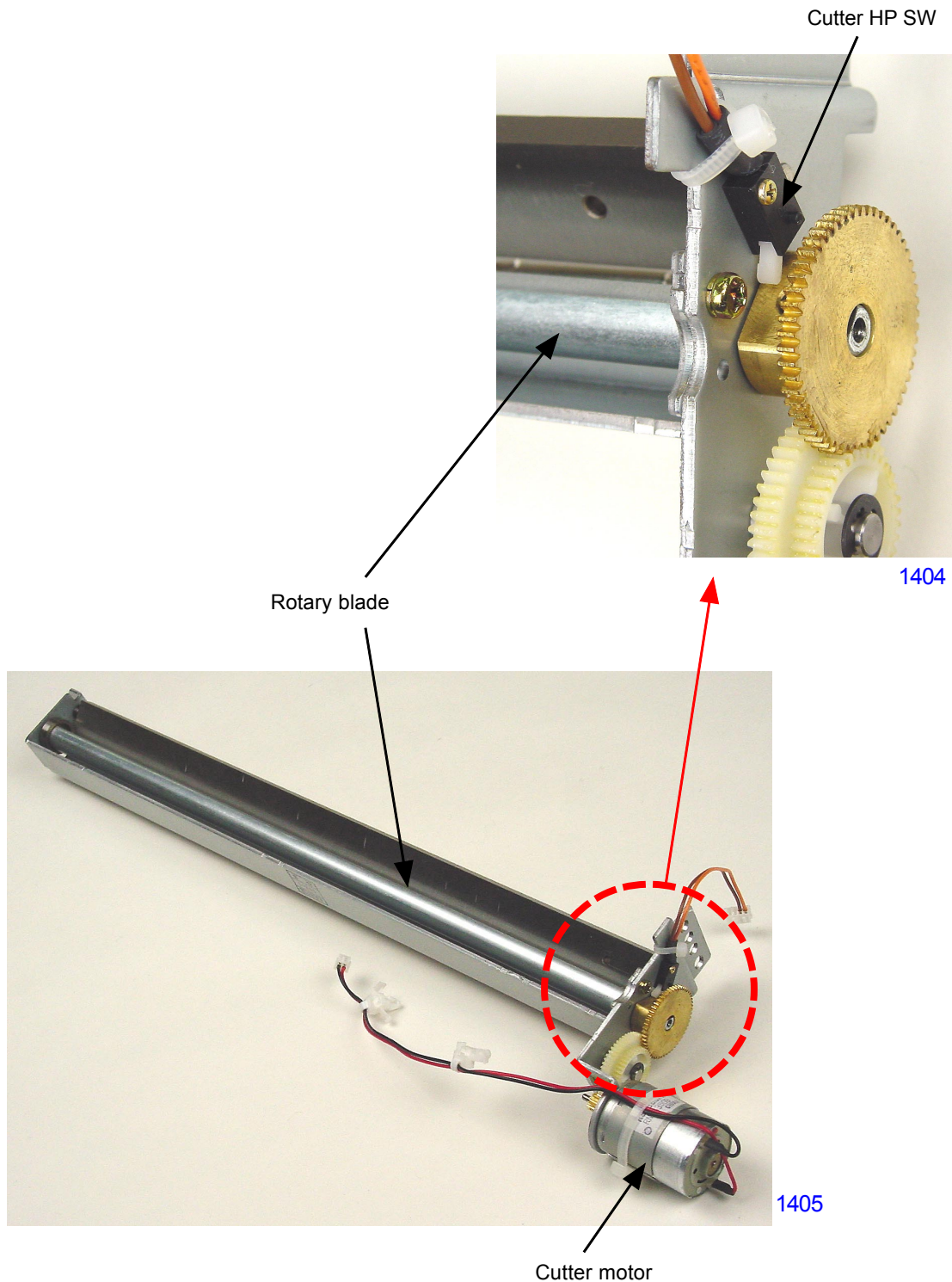
The end of the master roller is confirmed by the master end sensor detecting the black end mark attached on the tail end of the master material on the master roll. The master end sensor checks every 10 ms while the master is being transported, and the master roll replace message is indicated when the end mark is detected twice in succession.

3-1. Master Cutting Mechanism (Rotary cutter : A3/Ledger machine)

The master is cut by the rotary cutter of the cutter unit, which is rotated by the cutter motor. The cutter motor rotates in one direction.

The cutter HP SW confirms the home position of the rotary cutter. The cutter is at the home position when the switch is not pressed.

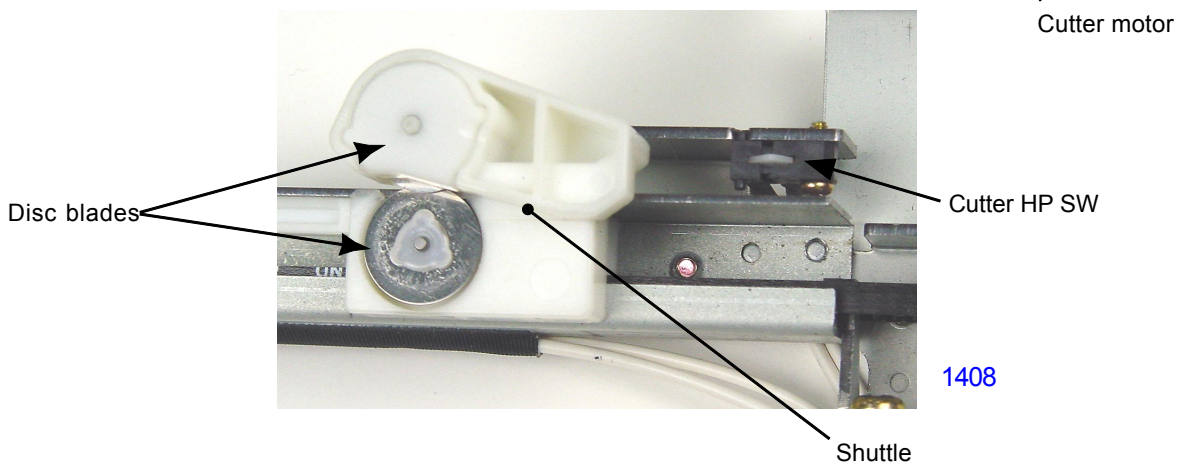
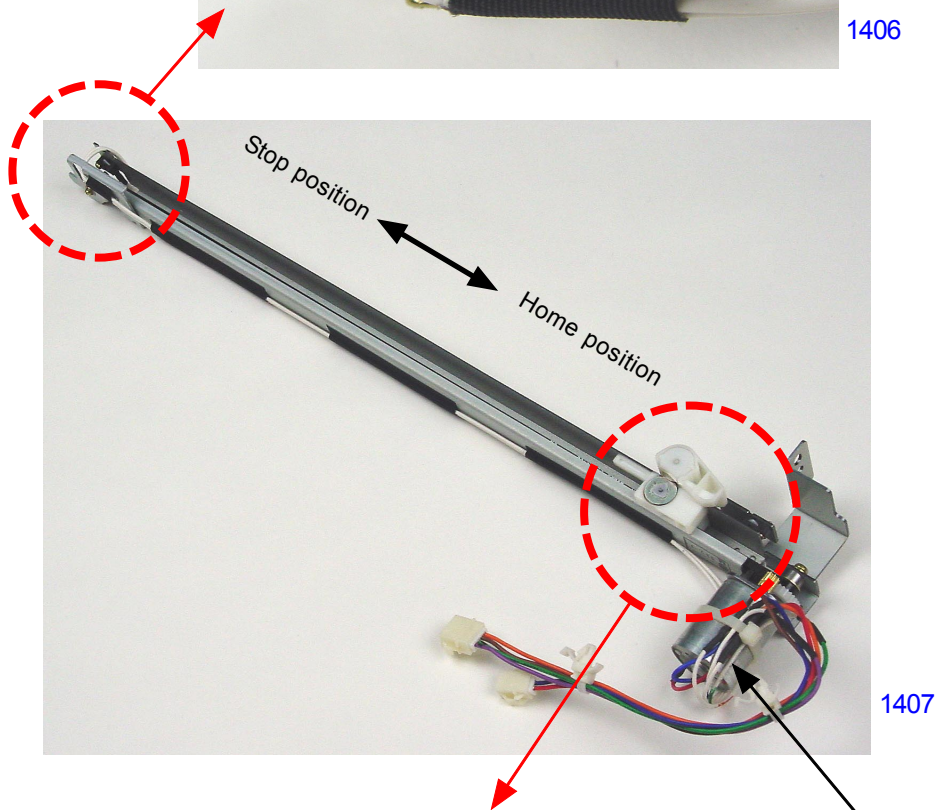
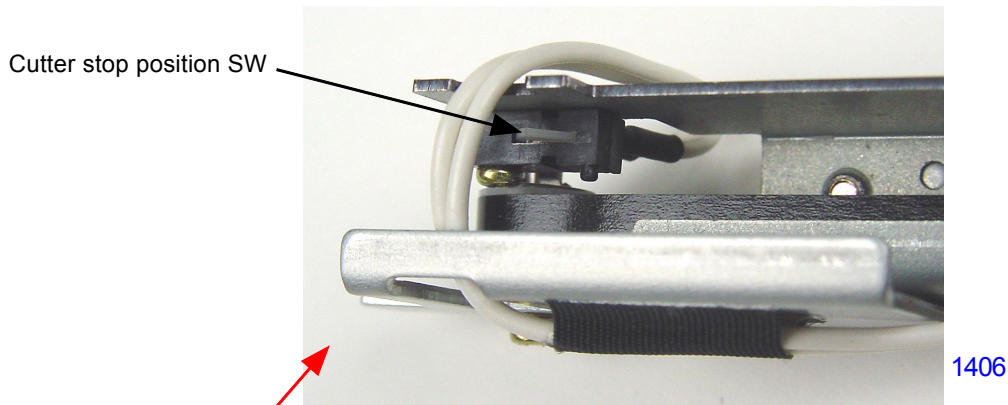
As the cutter motor activates, the gears turn to rotate the rotary blade. The cam on the metal gear pushes against the actuator of the cutter HP SW and after one rotation of the cam the switch actuator arrives back to the flat-cut on the cam. The switch actuator is no longer pressed by the cam and the cutter motor stops.



3-2. Master Cutting Mechanism (Shuttle cutter : excluding A3/Ledger machine)

The master is cut by the round disc shuttle cutter blade sliding from the home position at one end to the cutter stop position on the other end of the cutter unit. Once the disc blade cuts the master material, it returns back to the home position to end the cutting operation.

The position of the disc blade is checked by the cutter HP SW and cutter stop position SW. The blade is at the home position when the cutter stop position SW is OFF and cutter HP SW is ON.



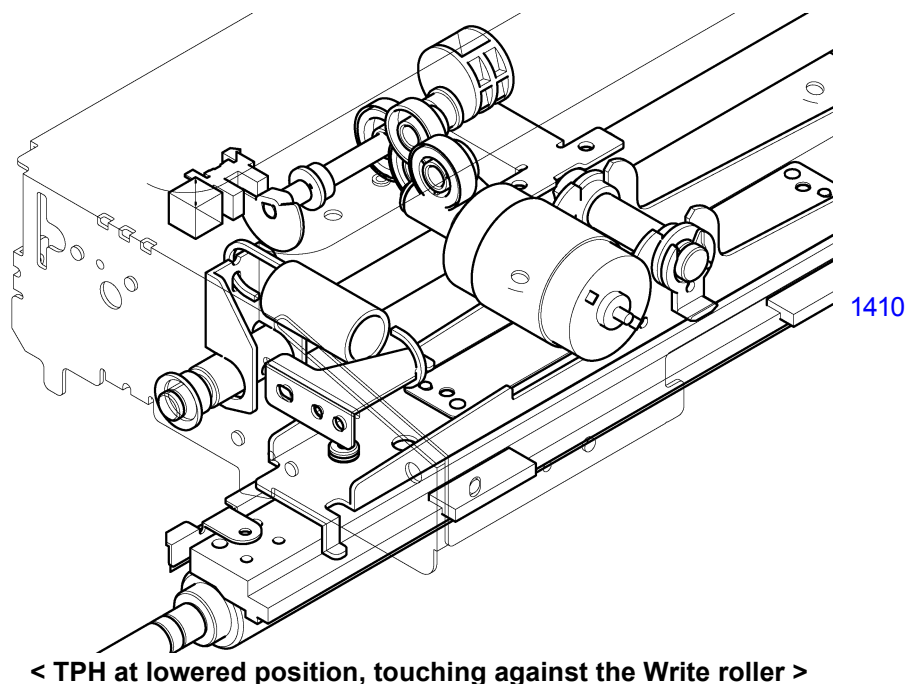
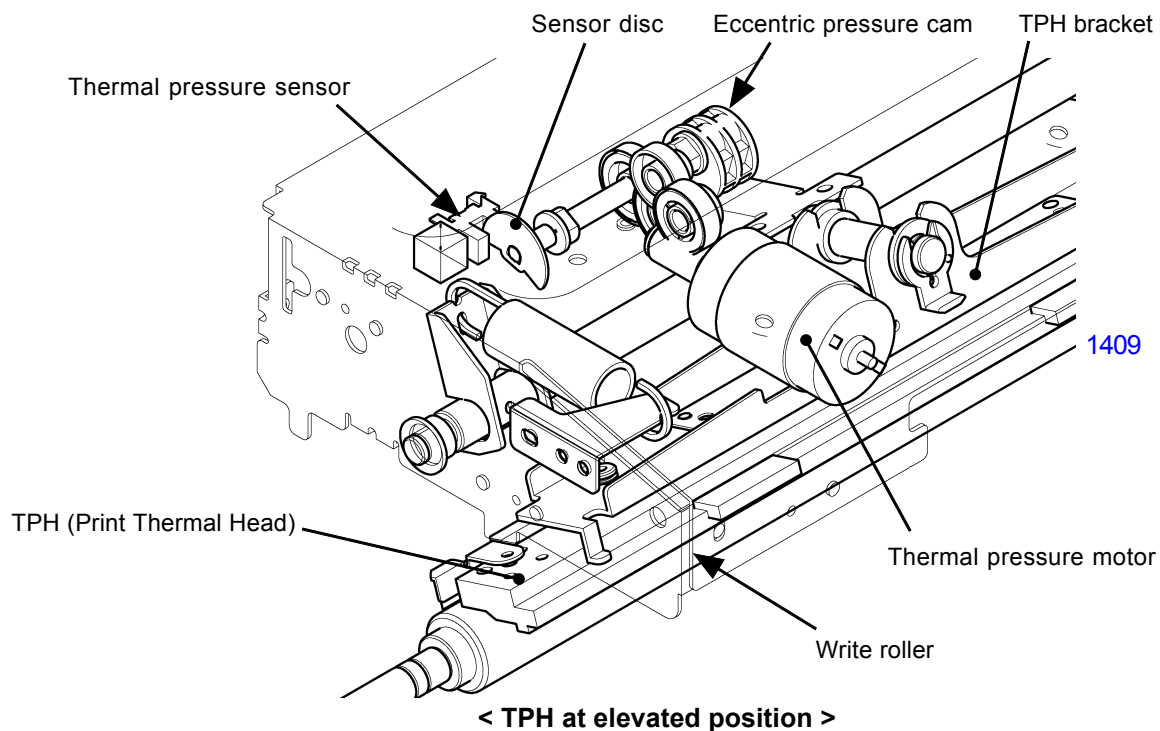
4. TPH (Thermal Print Head) Elevation Mechanism

When the machine is at standby or when loading the master onto the print drum after master making, the TPH is elevated away from the write roller. The TPH is lowered against the write roller only during the master making and master transfer operation.

The up and down movement of the TPH is made by the rotation of the eccentric pressure cam rotated by the thermal pressure motor.

The stop position of the TPH, whether going up or down, is detected by the thermal pressure sensor and sensor disc.

When the machine power is switched ON or when the all-reset button is pressed, the initialization movement of the machine elevates the TPH away from the write roller.



5. Master Set Mechanism

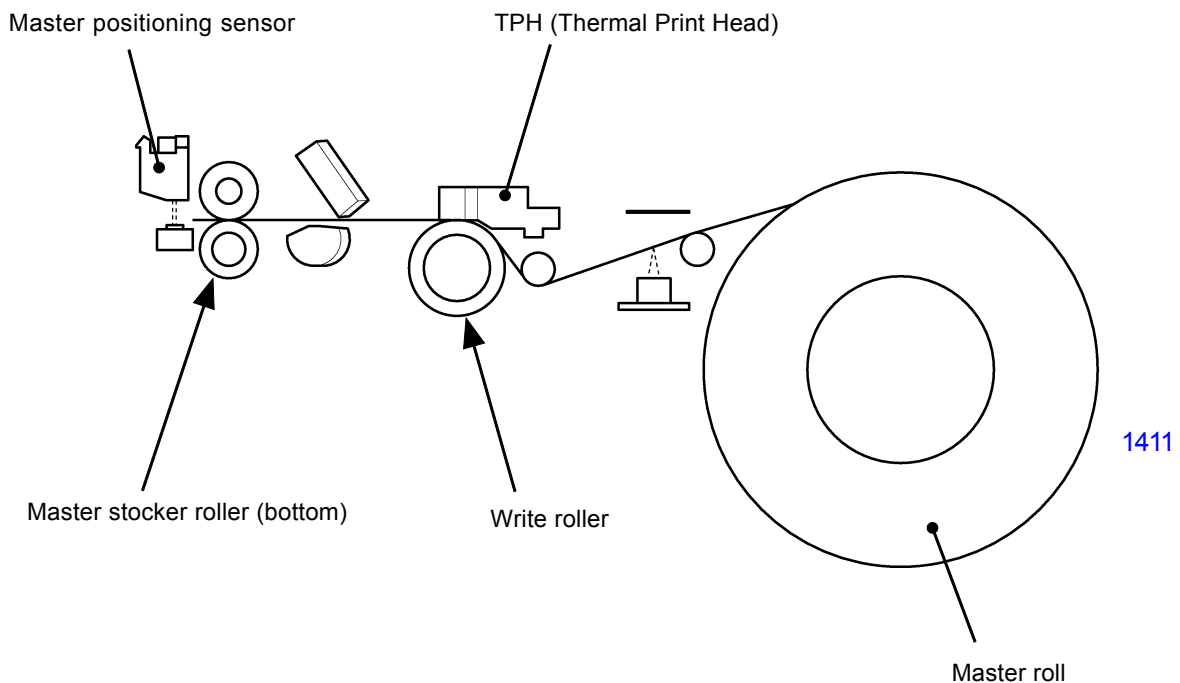
When the master making unit upper cover is closed and the set sensor detects the closed cover, the master set operation, described below, takes place.

First, the TPH is elevated down against the write roller. Then the write pulse motor rotates the write roller and master stocker roller to feed the master material forward until the leading edge of the master material is detected by the master positioning sensor. The write pulse motor stops and the TPH is elevated up. The write pulse motor rotates again to advance the master material forward 20mm by the rotation of the master stocker roller and the pulse motor stops.

The TPH is elevated down against the write roller again and the write pulse motor rotates in the reverse direction to bring the master material back. From the point when the leading edge of the master material clears away from the detection of the master positioning sensor, the master material continues to come back 5mm distance and the motor stops, and the TPH elevates up. This measurement can be adjusted by test mode No.540 [Master front-end position adjustment]. The master set operation ends and the master making unit waits for the master making operation to start.

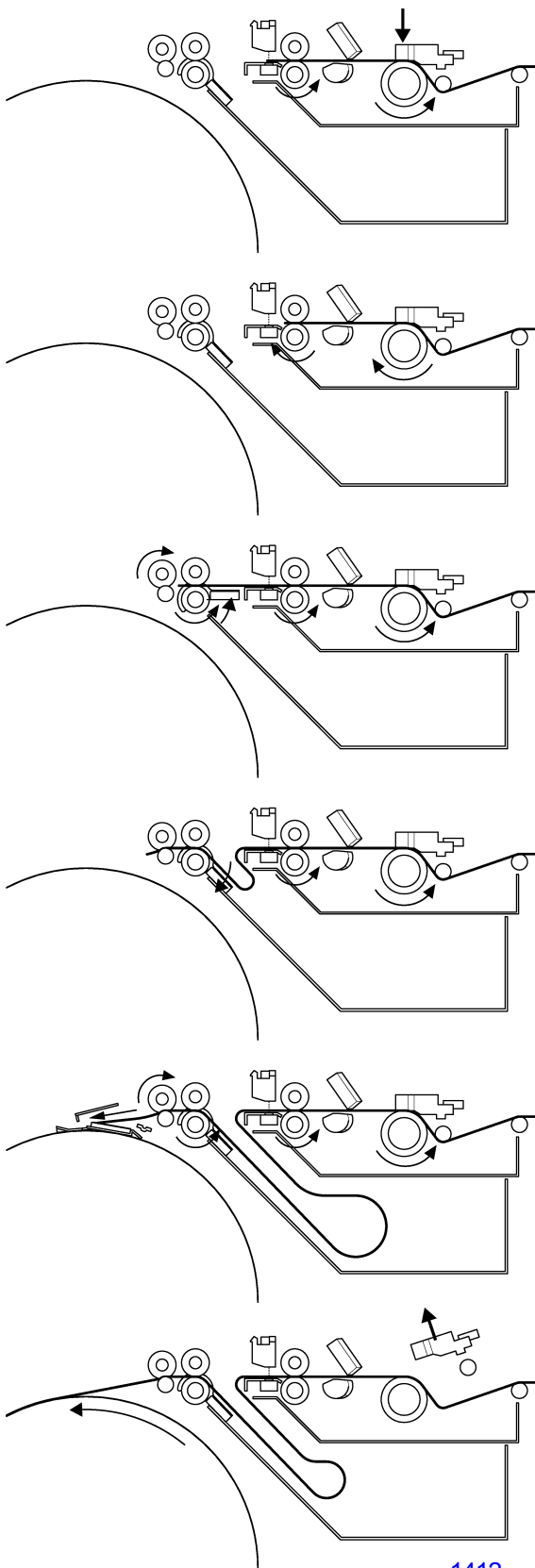
The master set operation is also performed after each master cut operation, as described below.

After the cutter operates to cut the master material, the TPH elevates down against the write roller. The write pulse motor activates to send the master material forward until the leading edge of the master material is detected by the master positioning sensor. The pulse motor stops once, and then rotates in the reverse direction for 5mm from the point the leading edge of the master material escapes from the master positioning sensor (adjustable by test mode No.540). The write pulse motor stops and elevates the TPH up. The master set operation ends and the master making unit waits for the master making operation to start.



6. Master Making Movement

The start of master making to the start of master loading on the print drum is explained in sequence below.



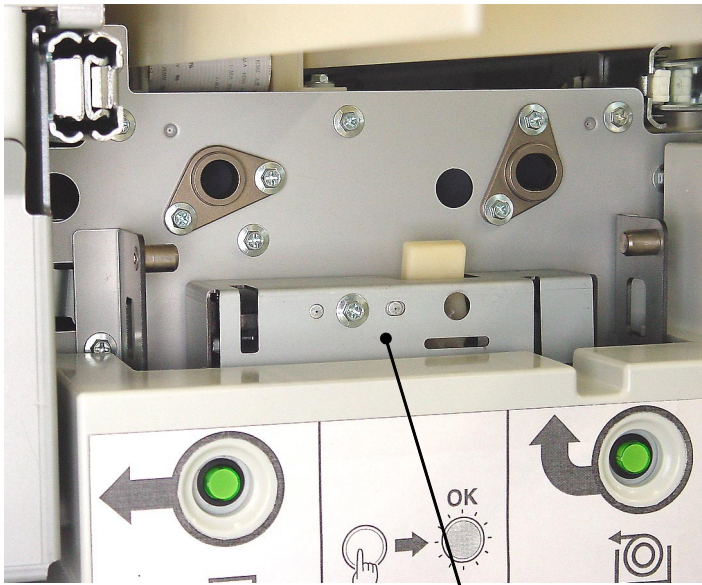
1412

- (1) At the start of the master making, the TPH comes down to pinch the master material between the TPH and the write roller. The write pulse motor activates to rotate the write roller and master stocker roller in the forward direction to feed the master material towards the master positioning sensor.
- (2) The write pulse motor is rotated in the reverse direction to bring the master material back away from the master positioning sensor for a given distance and waits for the scanning to proceed.
- (3) With the master making start signal, the master stocker guide plate rises to cover the stocker room. Both the load pulse motor and write pulse motor rotate in the forward direction to transfer the leading edge of the master material through the load roller. The master making starts.
- (4) The master stocker guide plate drops down to let the oncoming master material to enter into the stocker room. The separation fans operate to assist the master material to enter into the stocker room smoothly, and when the clamping guide roller grips the master material, the load pulse motor stops. The master making continues.
- (5) The print drum stops at position-A and the clamp plate opens. The load pulse motor activates to send the leading edge of the master material to the clamp plate. The clamp plate closes and clamps the master material. The master making still continues.
- (6) As the master making ends, the TPH elevates up and the print drum starts to rotate, wrapping the master material around the print drum.

Disassembly

1. Removing the Master Making U Lock Sensor

- (1) Pull out the master making unit and switch off the machine power.
- (2) Detach the safety SW cover by removing a screw (M4x8: 1pc).
- (3) Unplug the connector, remove a screw (M3x6: 1pc) and detach the master making U lock sensor.

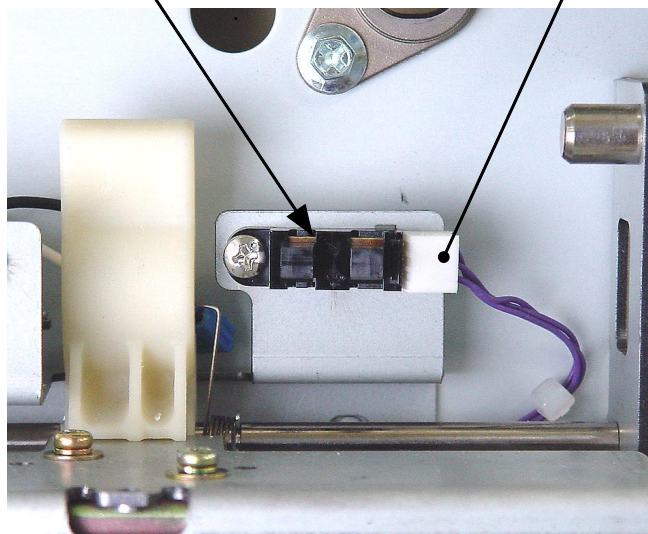


1413

Safety SW cover

Master making U lock sensor

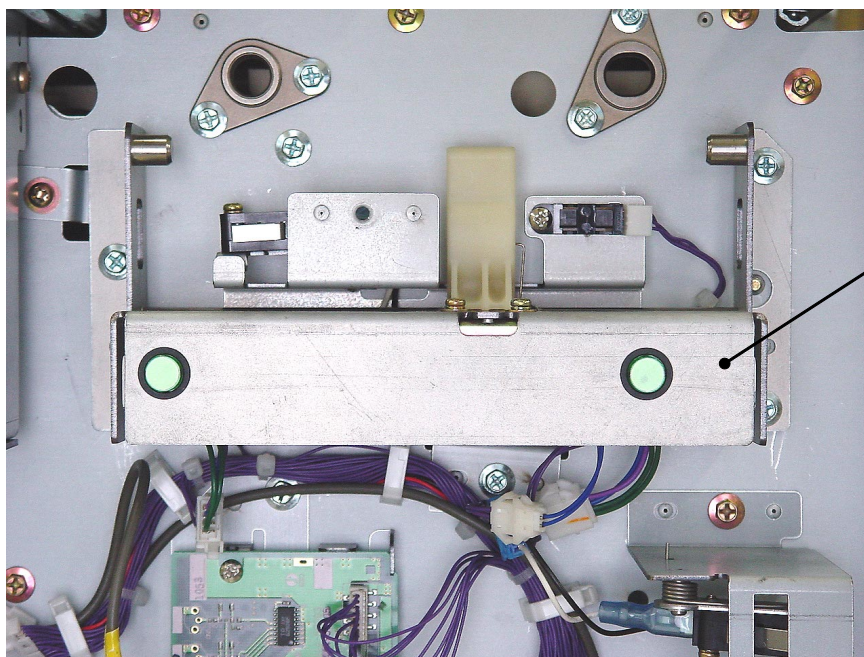
Connector



1414

2. Removing the Print Drum, Master Making U Release Button, Lock Solenoid, and Safety Switch

- (1) Detach the front cover.
- (2) Pull out the master making unit and switch off the machine power.
- (3) Detach the safety SW cover by removing a screw (M4x8: 1pc).
- (4) Unplug connectors (3 locations), remove screws (M4x8: 3pcs) and detach the master making U lock unit.



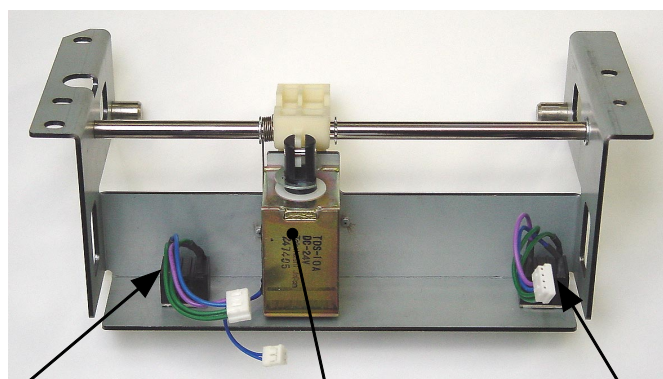
1415

Removing the print drum release button and master making U release button

- (5) Undo two hooks on each button from the master making U lock unit and remove the buttons.

Removing the master making U lock solenoid

- (5) Remove screws (M3x6: 2pcs) and detach the master making U lock solenoid.



1416

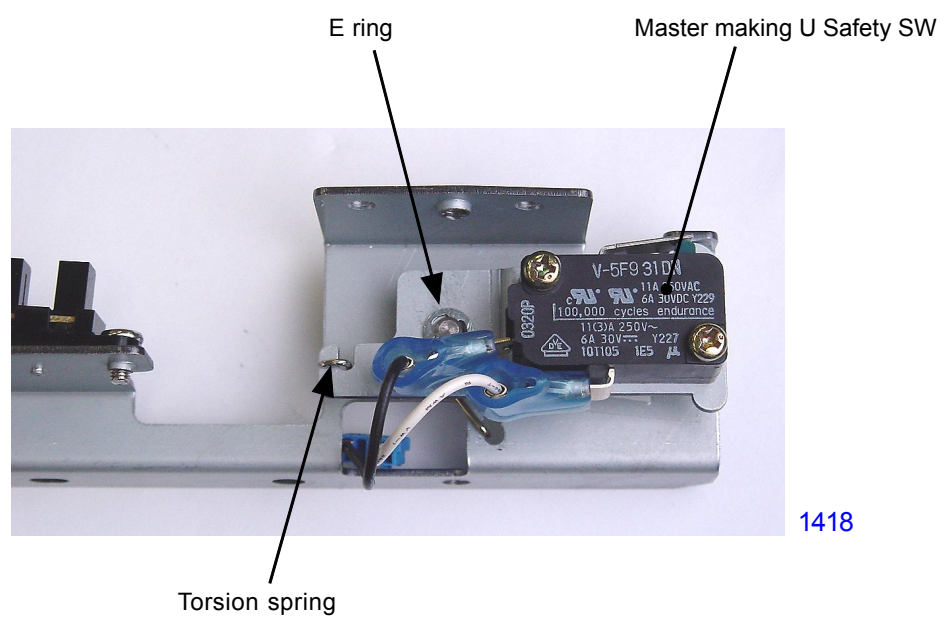
Master making U release button

Master making U lock solenoid

Print drum release button

Removing the master making U safety SW

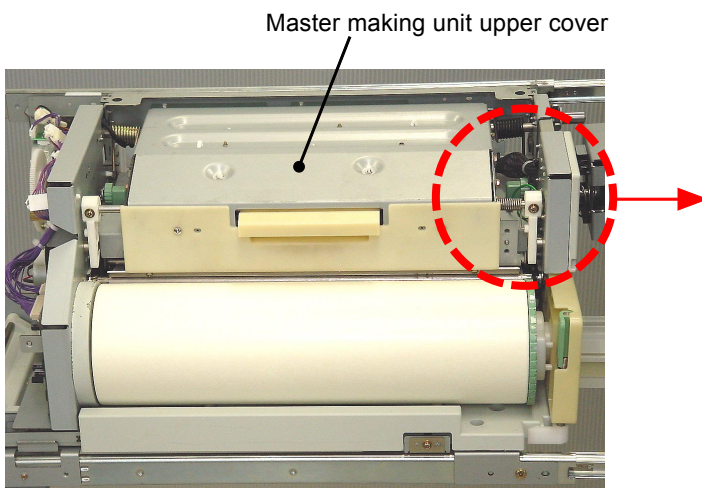
- (5) Unplug the connectors (2 locations), remove a screw (M4x8: 1pc) and detach the master making U safety SW assembly.
- (6) Unhook the torsion spring, remove an E-ring and detach the master making U safety SW together with the bracket. Remove the switch from the bracket.



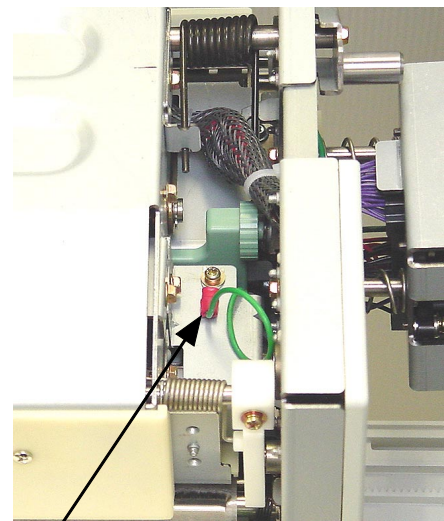
3. Removing the Print Thermal Head Assembly

- (1) Pull out the master making unit and switch off the machine power.
- (2) Disconnect the ground wire by removing a screw (M3x6: 1pc).
- (3) Open the master making unit upper cover.
- (4) Detach the master making unit bottom cover by removing screws (M3x6: 2pcs).
- (5) Detach the connector cover by removing one screw (M3x6: 1pc).

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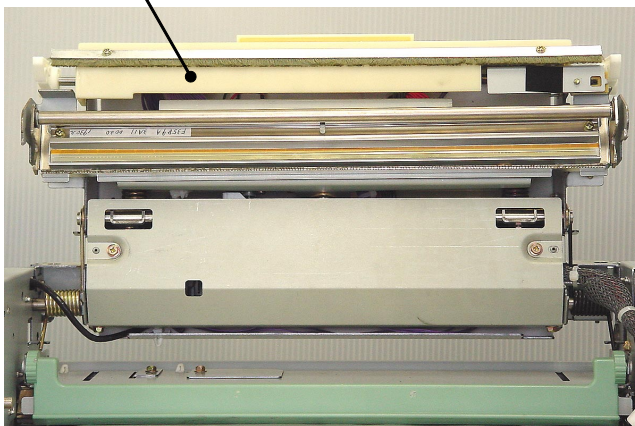


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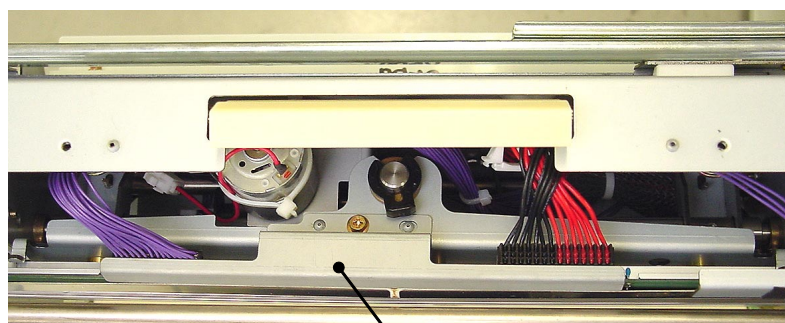


1420

Master making unit bottom cover



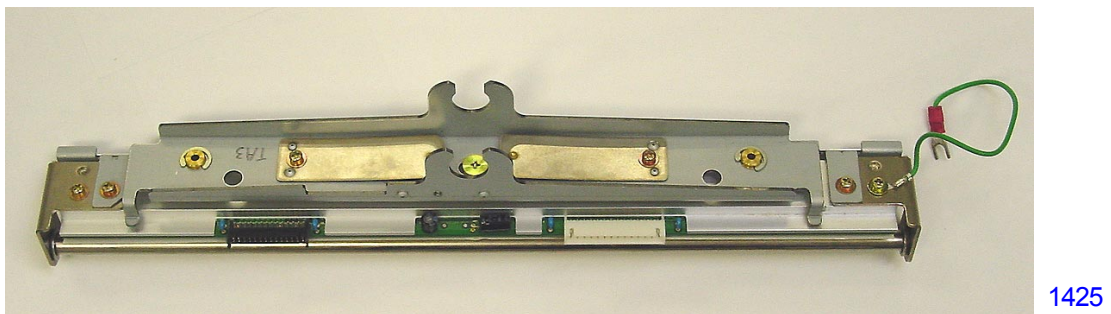
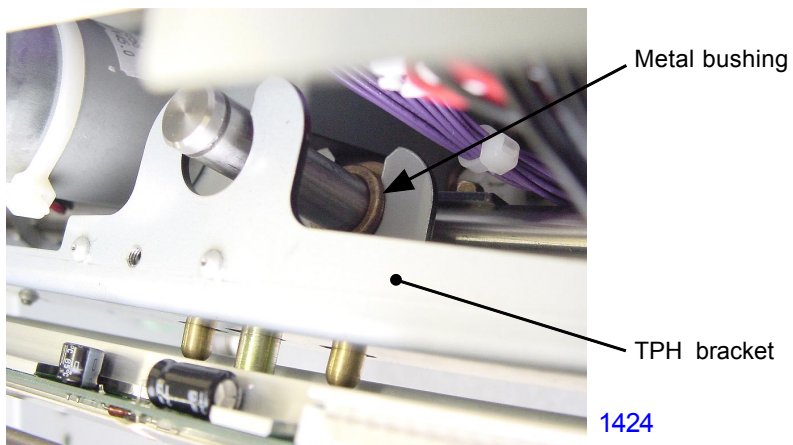
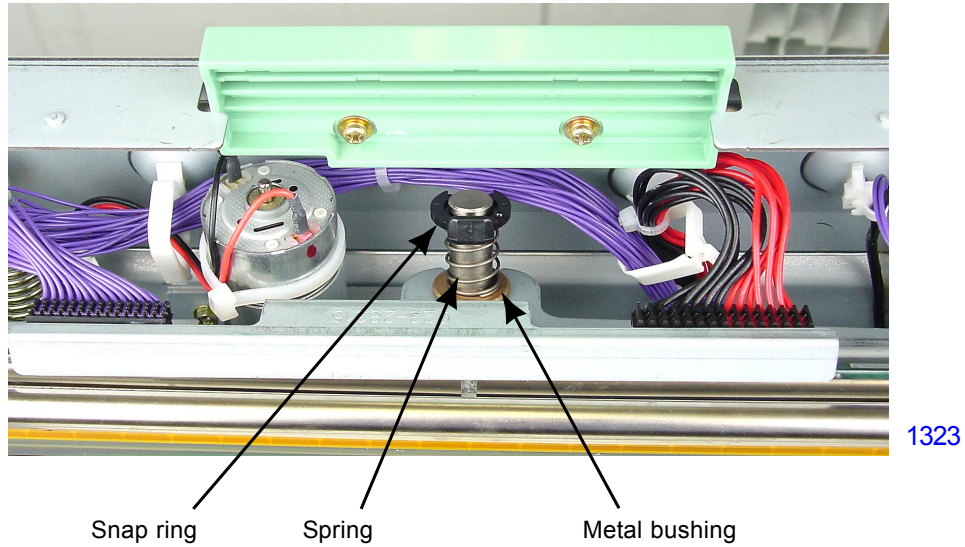
1421



Connector cover

1422

- (6) Unplug the connectors (2 locations), detach the snap ring, spring and metal bushing.
- (7) Slide off the metal bushing from the TPH bracket and remove the print thermal head assembly.

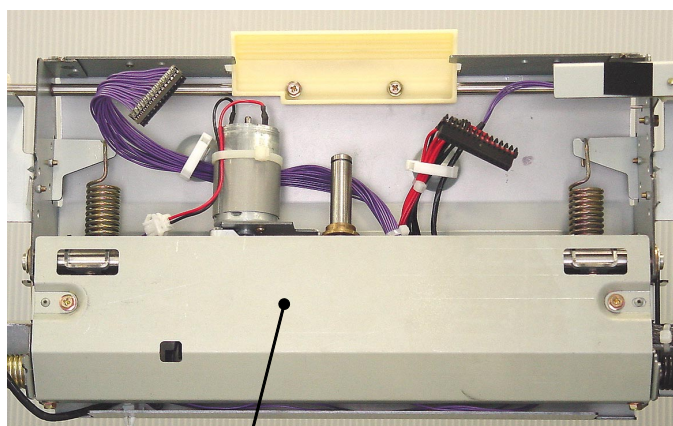


< Print Thermal Head Assembly >

4. Removing the Thermal Pressure Motor Assembly

- (1) Pull out the master making unit and switch off the machine power.
- (2) Remove the thermal print head assembly.
- (3) Detach the thermal pressure gear cover by removing screws (M3x6: 4pcs).
- (4) Remove the two thermal pressure springs.
- (5) Remove E-rings and metal bushings from both ends of the TPH support shaft, and remove the shaft.

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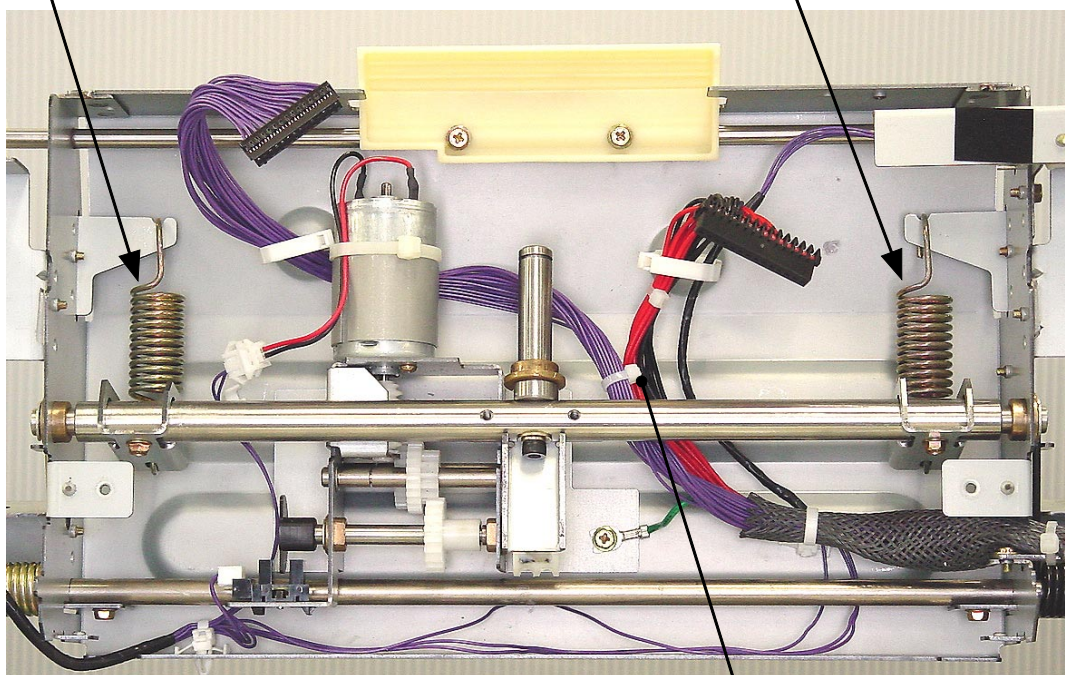


1426

Thermal pressure gear cover

Thermal pressure spring

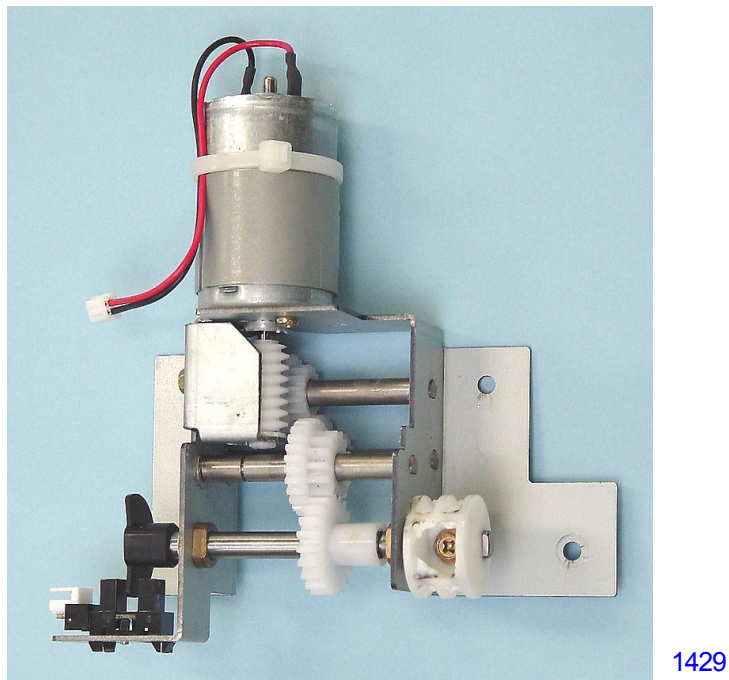
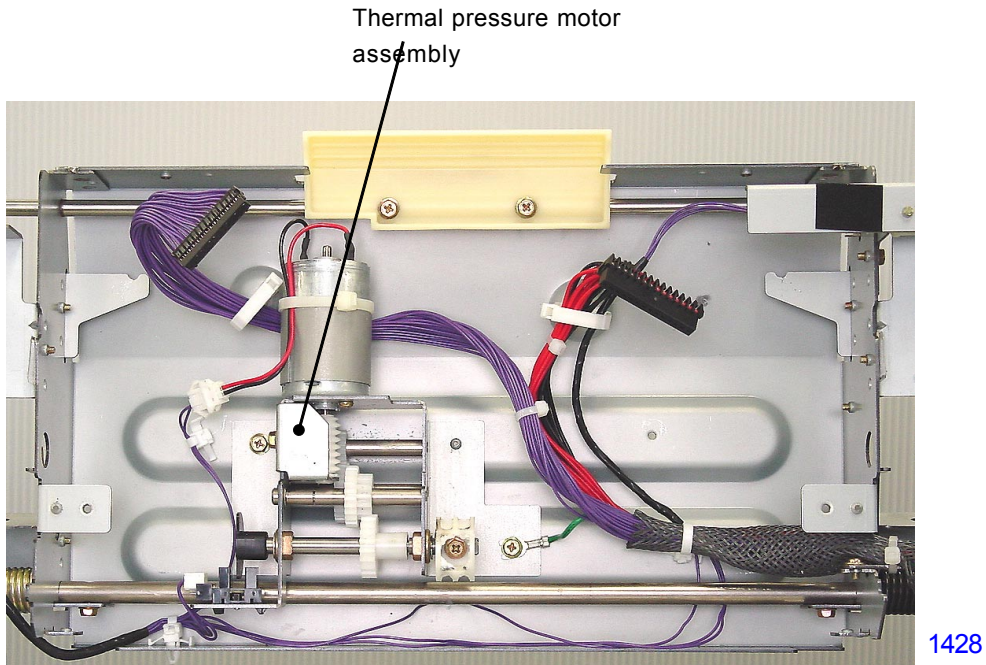
Thermal pressure spring



1427

TPH support shaft

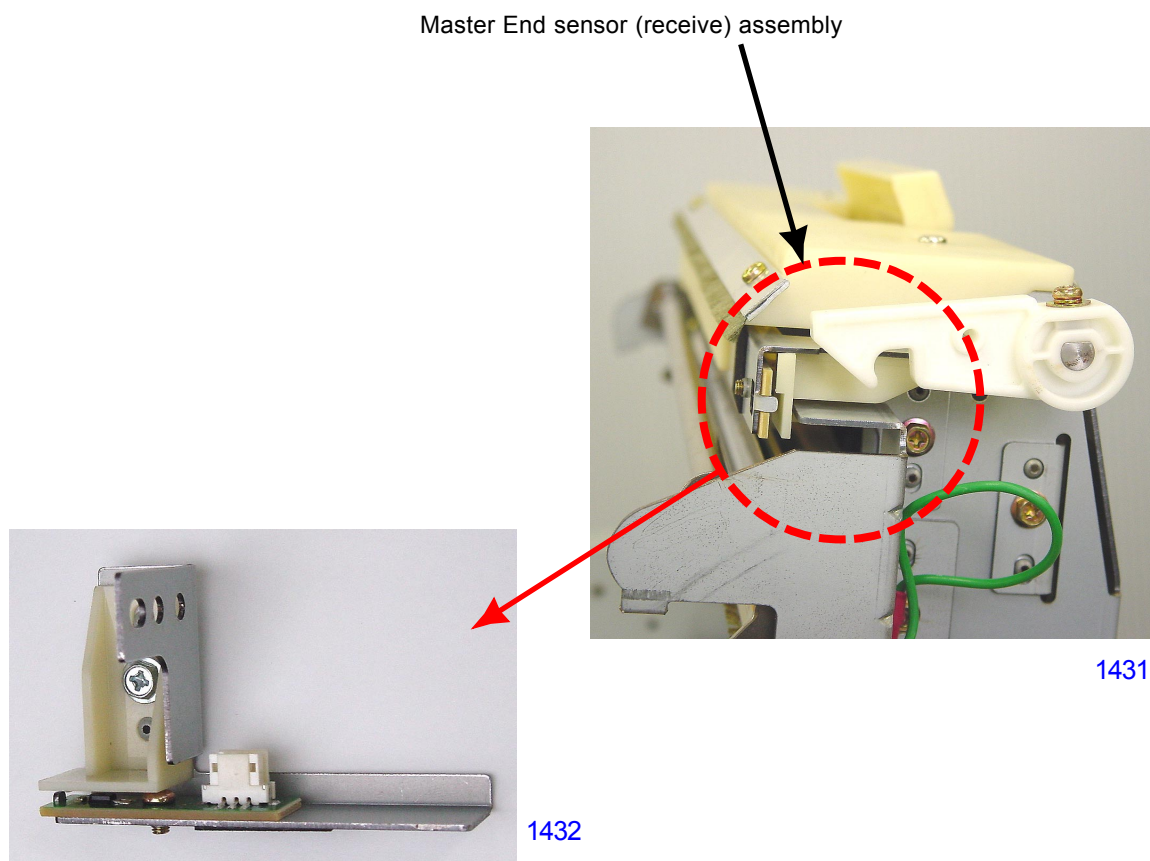
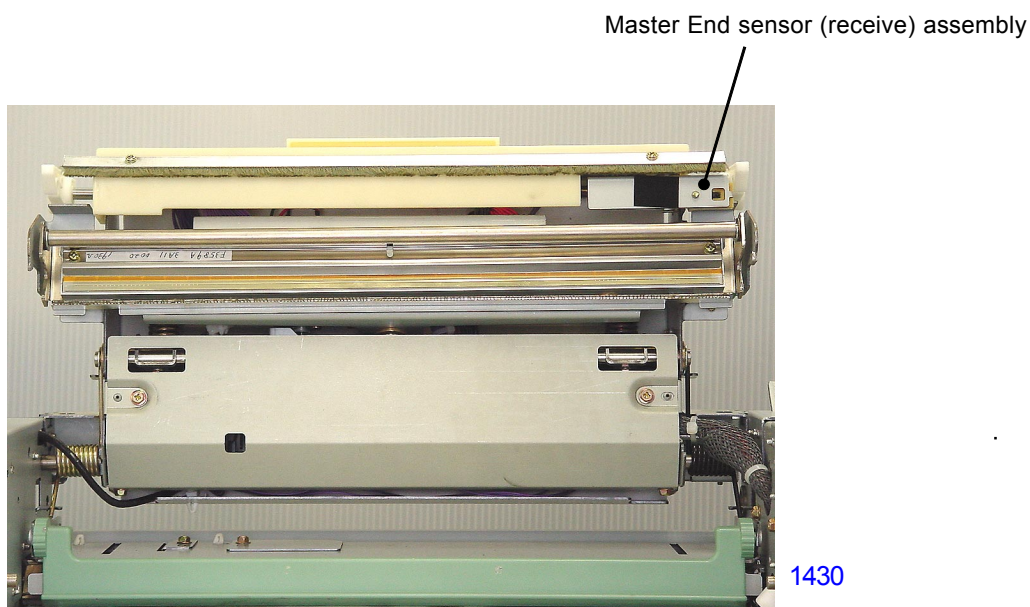
- (6) Detach the thermal pressure motor assembly by disconnecting the connectors to the motor and sensor and removing screws (M3x6: 2pcs).



< Thermal Pressure Motor Assembly >

5. Removing the Master End Sensor (receive) Assembly

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover.
- (3) Remove a screw (M3x6: 1pc), unplug the sensor connector and detach the master end sensor (receive) assembly.

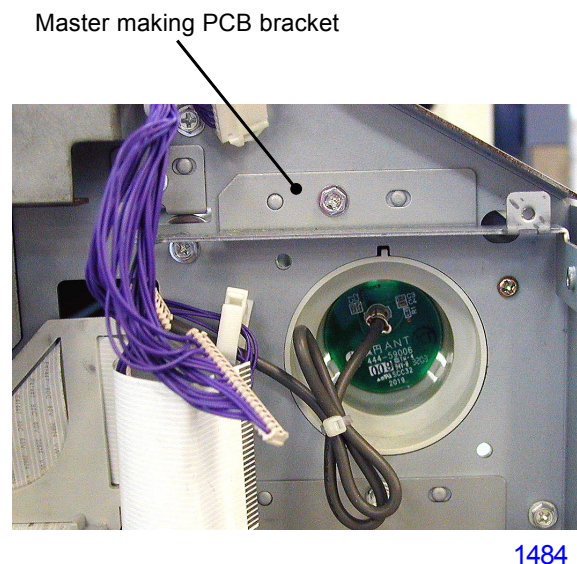
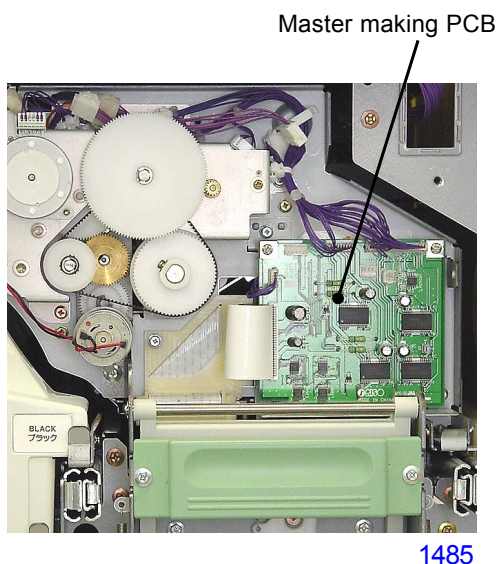
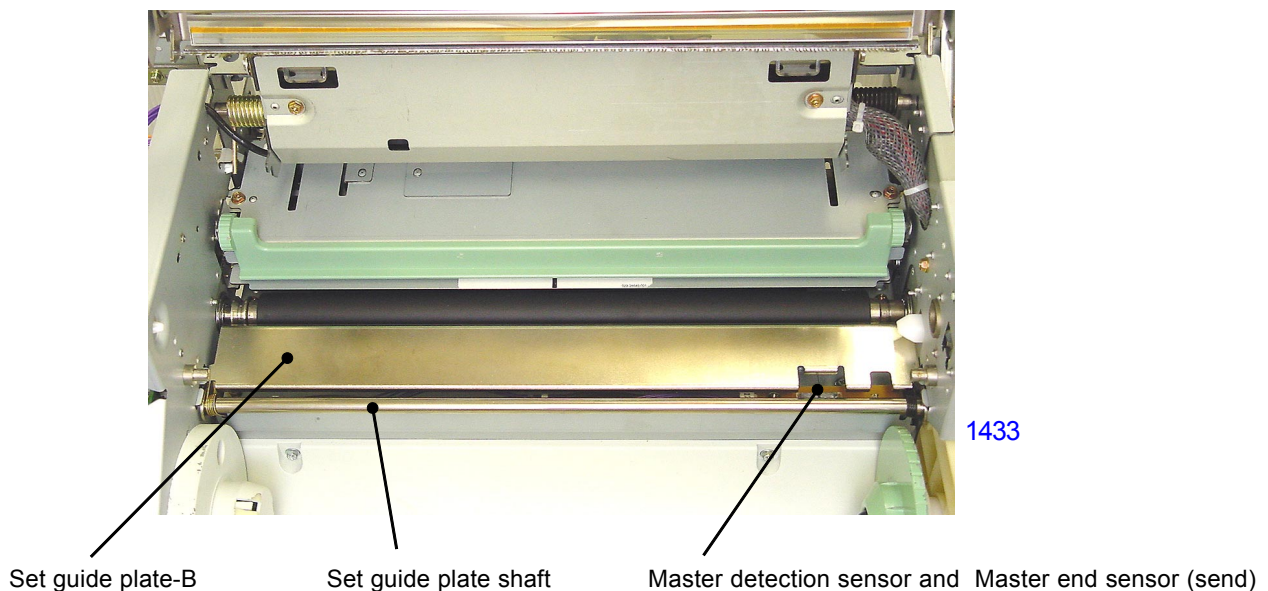


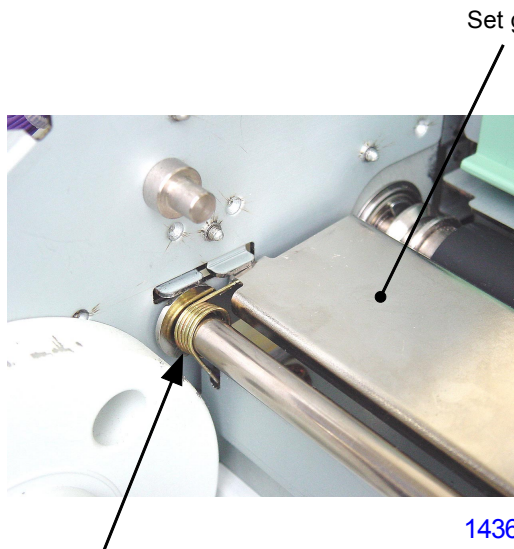
< Master End Sensor (receive) Assembly >

6. Removing the Master Detection Sensor and Master End Sensor (send) Assembly

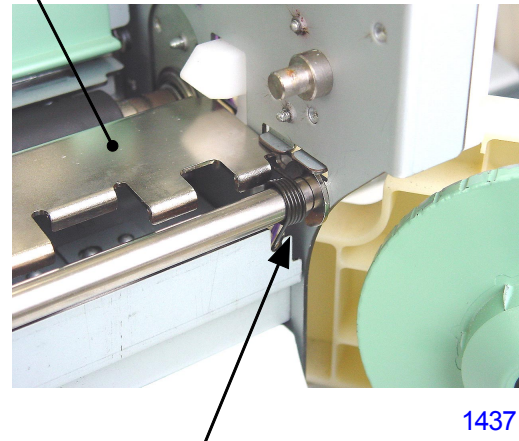
- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove the master roll.
- (3) Detach the master making cover front by removing screws (M4x8: 4pcs).
- (4) Detach the master making PCB by removing screws (M3x6: 2pcs)
- (5) Detach the master making PCB bracket (M4x8: 1 pc)
- (6) Remove the stopper plates front and rear by removing screw (M3x6: 1pc each).
 - * Since the set guide plate-B is forced up by two springs, set guide plate-B springs front and rear, press down the set guide plate-B when removing the stopper plates.
- (7) Detach and hang loose the master-flange assembly (rear) by removing screws (M3x6: 2 pcs).
- (8) Detach the set guide plate-B, together with the set guide plate shaft by removing the mounting screws of the shaft (M3x6: 1 pc each).

- Continues on next page -

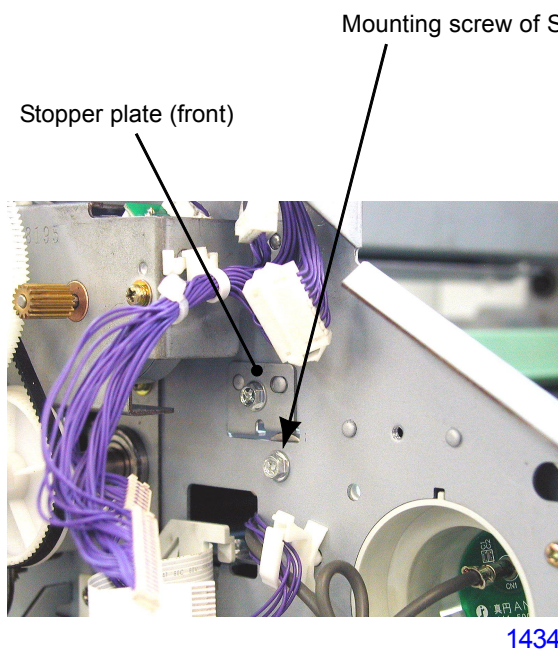




Set guide plate-B spring (front)



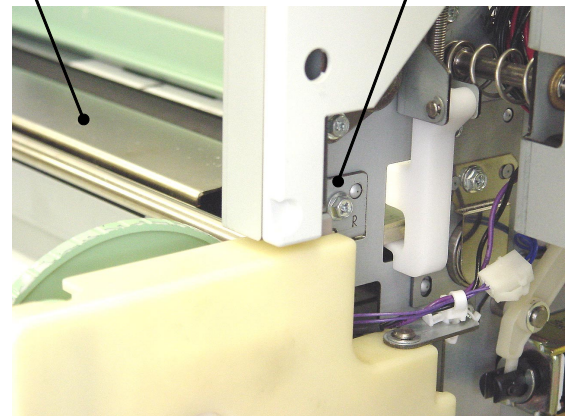
Set guide plate-B spring (rear)



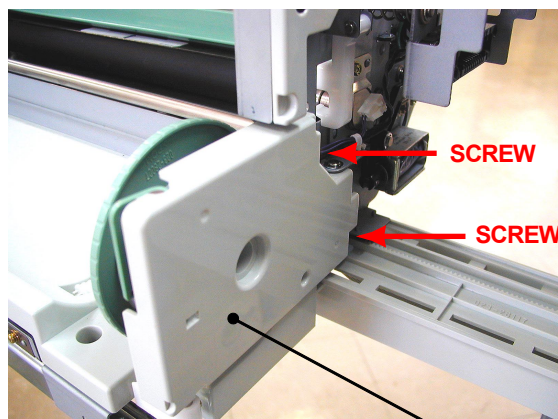
1434

Set guide plate-B

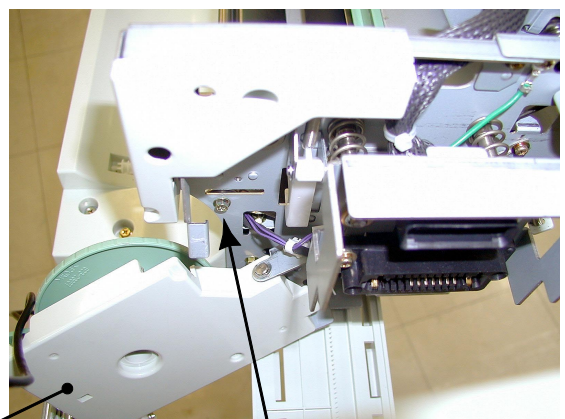
Stopper plate (rear)



1435

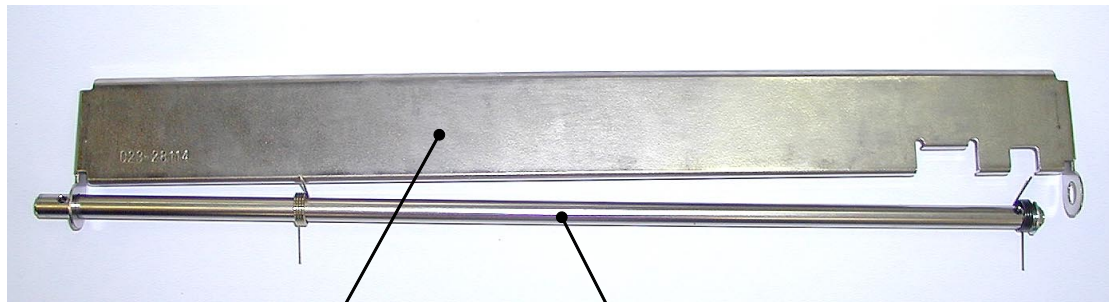


1488



1487

Master flange assembly (rear): Remove 2 screws and hang loose.

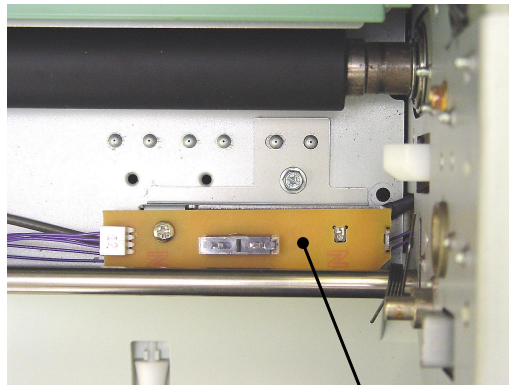


1486

Set guide plate-B

Set guide plate shaft

- (6) Detach the master detection sensor and master end sensor (send) assembly by disconnecting a connector and removing a screw (M3x6: 1pc).



1438

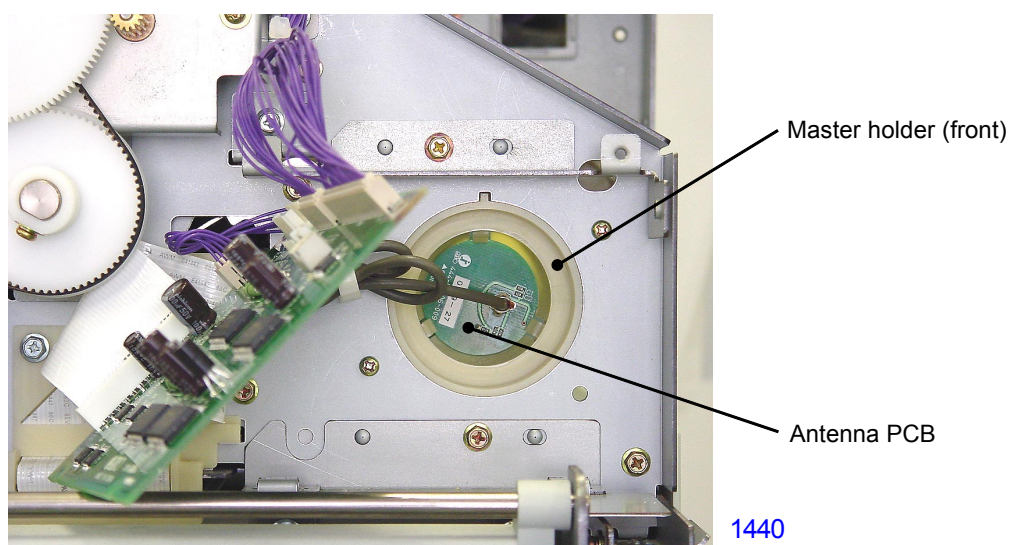
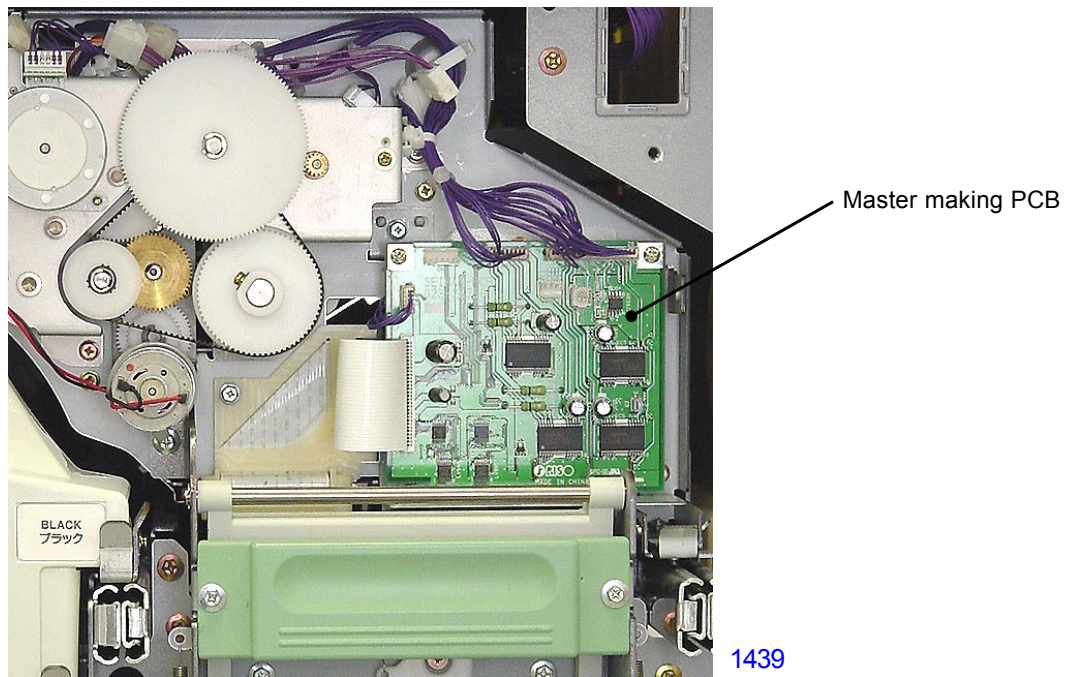
Master detection sensor and Master end sensor (send) assembly

< Precautions in Reassembly >

- Set guide plate-B spring (rear) is black in color.
- Hook the set guide plate-B springs (front and rear) correctly.
- The stopper plates (front and rear) are assembled back on the machine after the set guide plate-B springs. Therefore, the set guide plate-B must be pushed down when attaching the stopper plates on the machine.

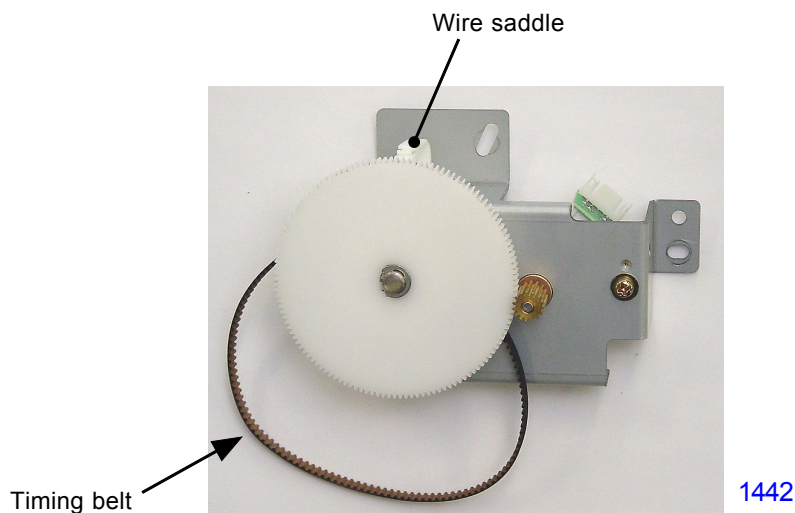
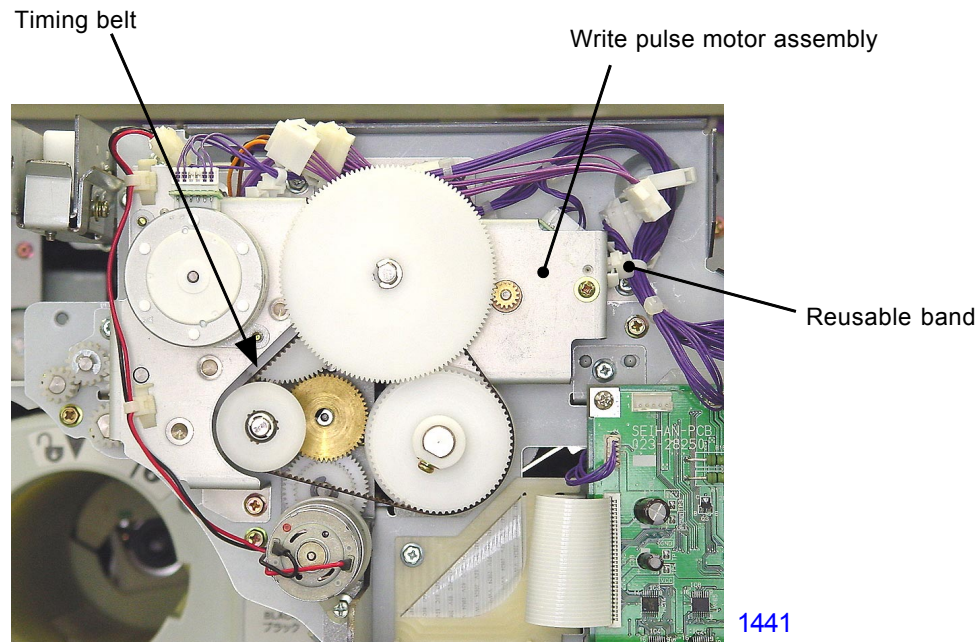
7. Removing the Antenna PCB

- (1) Pull out the master making unit and switch off the machine power.
- (2) Detach the master making cover front by removing screws (M4x8: 4pcs).
- (3) Detach the master making PCB by removing screws (M3x6: 2pcs).
- (4) Gently pull out the antenna connector, and detach the antenna PCB from the master holder (front) by unhooking from the three plastic claws of the master holder.



8. Removing the Write Pulse Motor Assembly

- (1) Pull out the master making unit and switch off the machine power.
- (2) Detach the master making cover front by removing screws (M4x8: 4pcs).
- (3) Unhook wire harness from the wire saddle on the bracket of the write pulse motor.
- (4) Detach the reusable band from the bracket of the write pulse motor and unplug the connector from the write pulse motor.
- (5) Remove screws (M3x6: 2pcs) and detach the write pulse motor assembly together with the timing belt.



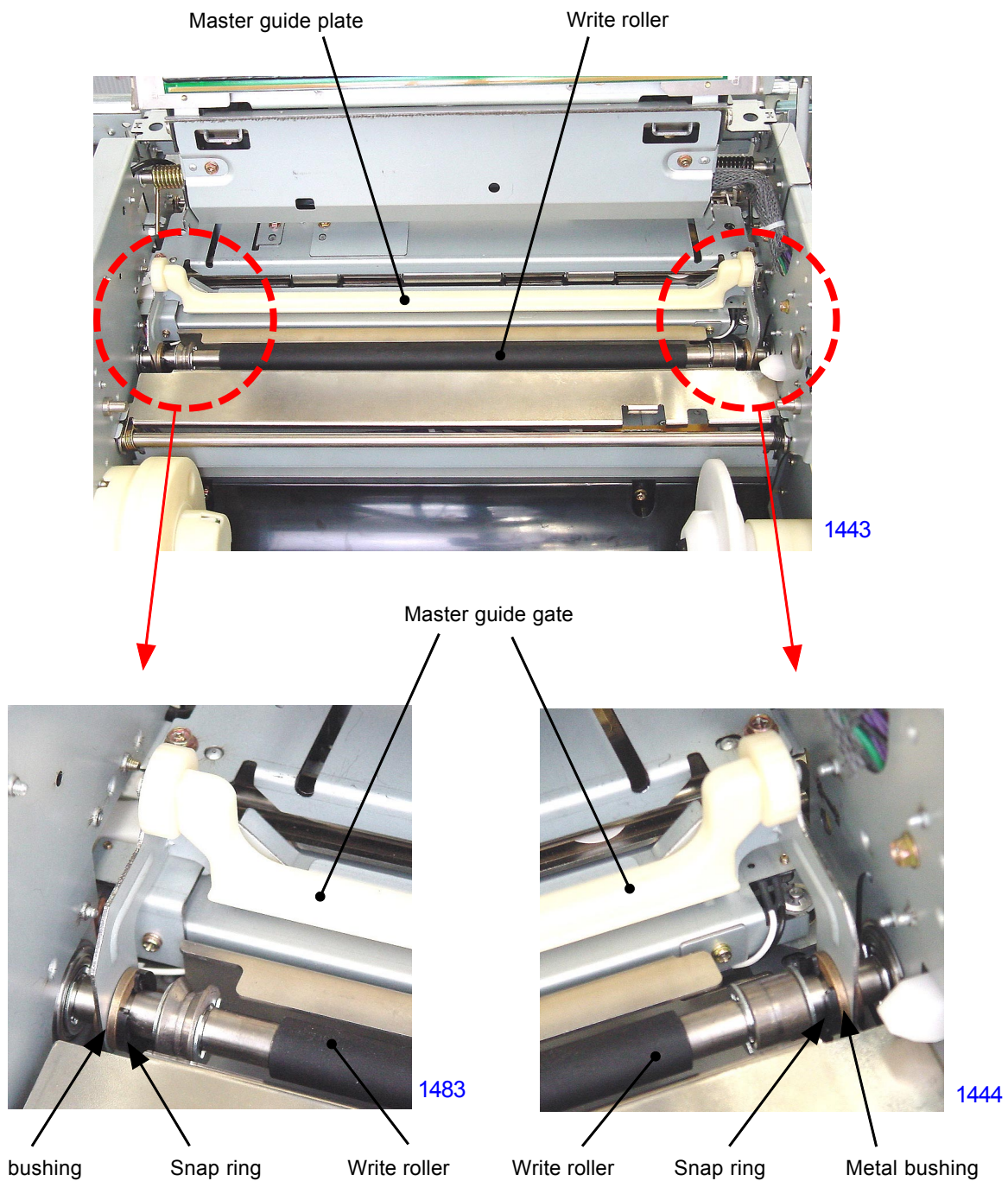
< Write pulse motor assembly >

< Precaution in Reassembly >

When installing the write pulse motor assembly back on the machine, screw on the motor assembly on the machine loosely. Then rotate the whole motor assembly in clockwise direction to apply tension on the timing belt. With adequate tension applied on the timing belt, securely tighten the mounting screws.

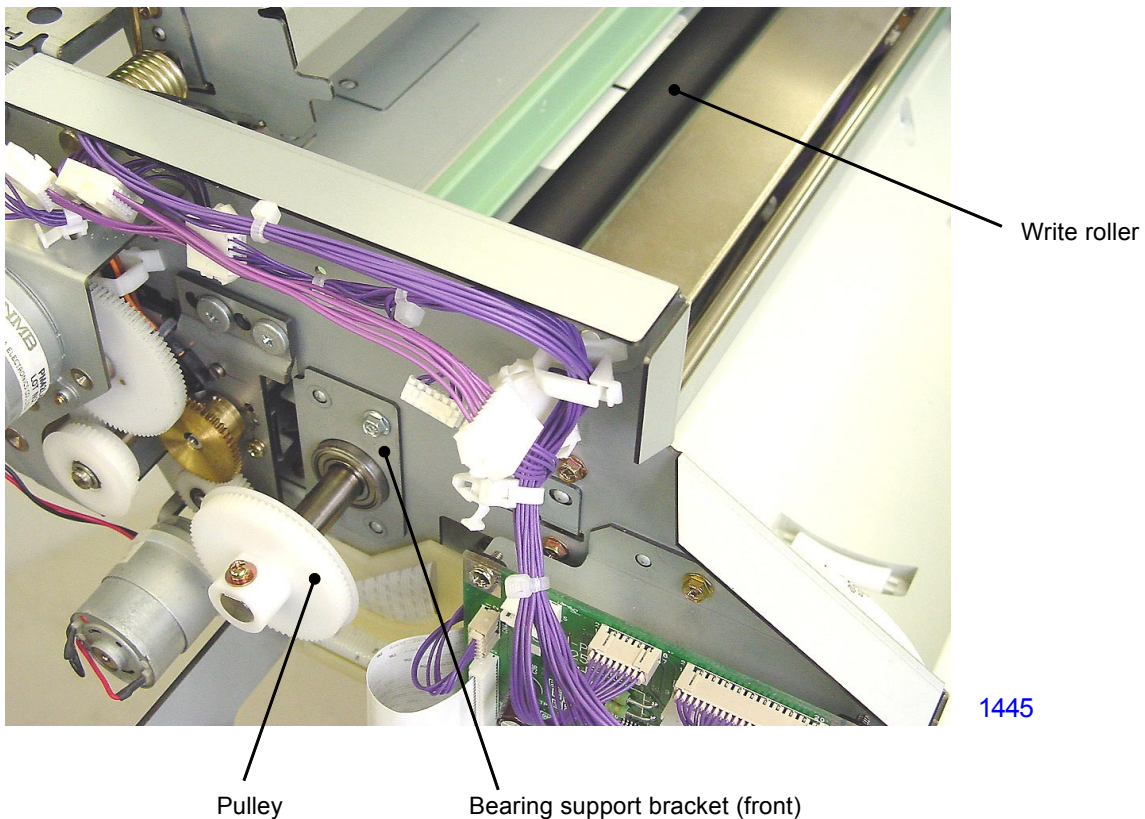
9. Removing the Master Guide Gate (excluding A3/Ledger machine)

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove the master roll.
- (3) Detach the two snap rings from the shaft of the write roller.
- (4) Slide the two metal bushings inward on the write roller shaft and detach the master guide gate from the shaft of the write roller.



10. Removing the Write Roller

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove following items.
 - Master roll
 - master making cover front
 - Write pulse motor assembly
 - Master guide gate (excluding A3/Ledger machines)
- (3) Detach the write roller pulley by removing a screw (M3x8: 1pc).
- (4) Detach the bearing support bracket (front) by removing screws (M3x6: 2pcs).
- (5) Pull out the write roller through the hole on the side frame.



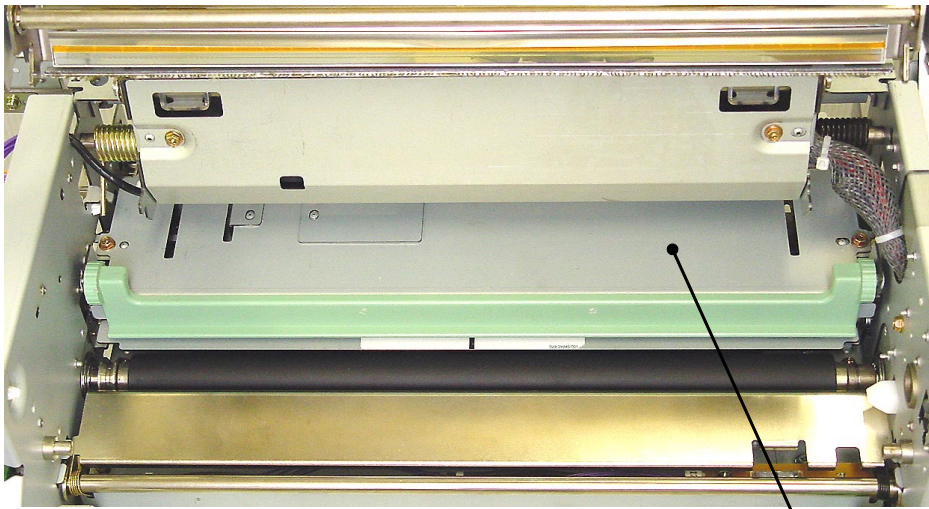
< Write roller >

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove following items.
 - Master roll
 - master making cover front
 - Write pulse motor assembly
- (3) Detach the reusable bands (3 locations) from the bracket of the load pulse motor and unplug the load pulse motor connector.
- (4) Remove screws (M3x6: 2pcs) and detach the load pulse motor assembly.



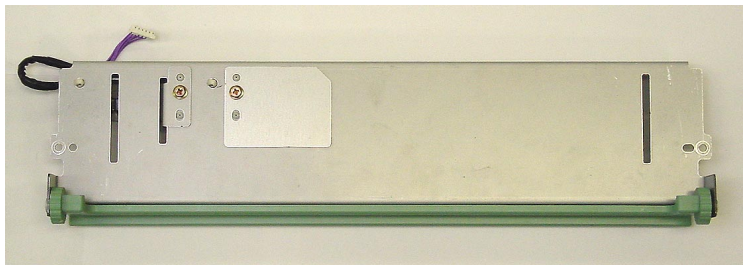
12. Removing the Cutter Cover Assembly (A3/Ledger machines only)

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove following items.
 - Master roll
 - master making cover front
 - Write pulse motor assembly
 - Load pulse motor assembly
- (3) Unplug the sensor connector, remove screws (M3x6: 2pcs), and detach the cutter cover assembly while pulling out the wire harness from the hole on the machine side frame.



1448

Cutter cover assembly

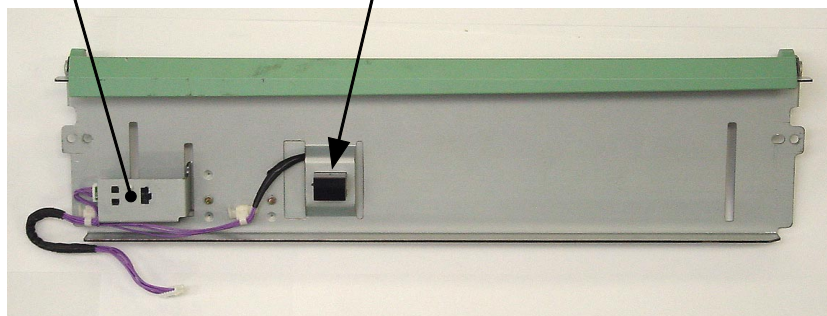


1449

< Cutter cover assembly >

Master making unit upper cover set sensor

Master positioning sensor



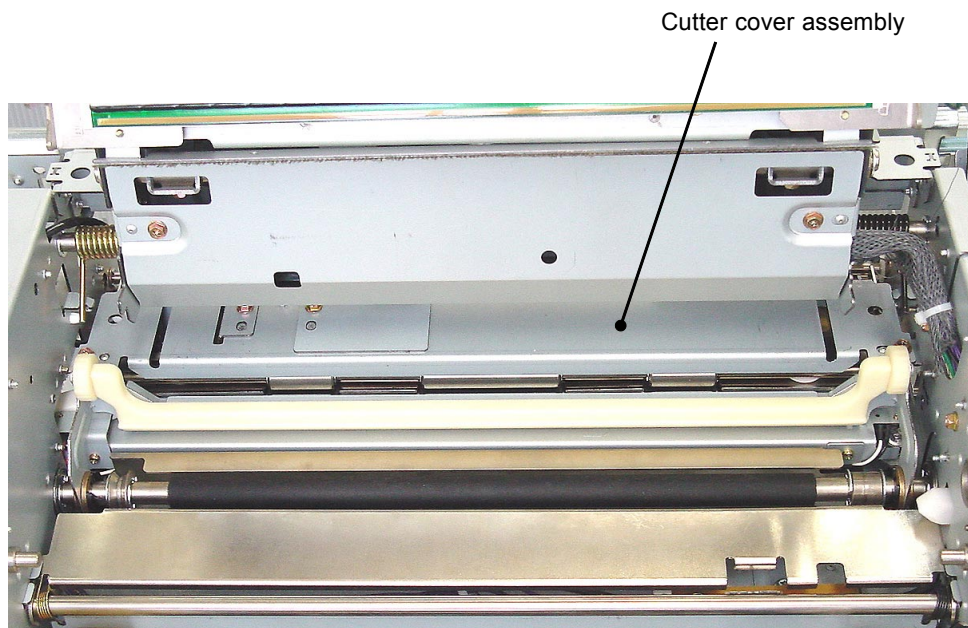
1450

< Cutter cover assembly >

(Under view)

13. Removing the Cutter Cover Assembly (excluding A3/Ledger machines)

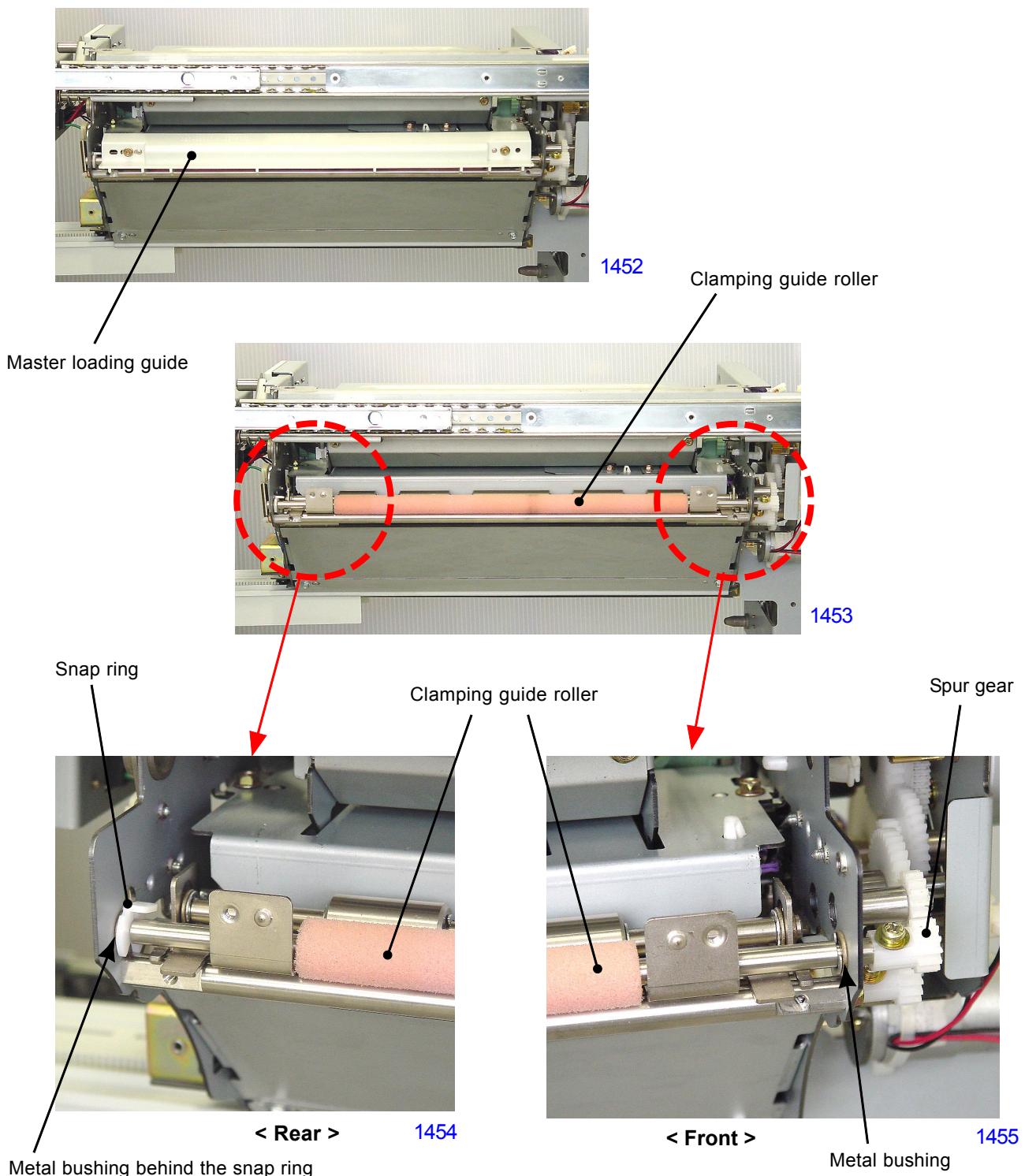
- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove following items.
 - Master roll
 - master making cover front
 - Write pulse motor assembly
 - Load pulse motor assembly
- (3) Unplug the sensor connector, remove screws (M3x6: 2pcs), and detach the cutter cover assembly while pulling out the wire harness from the hole on the machine side frame.



1451

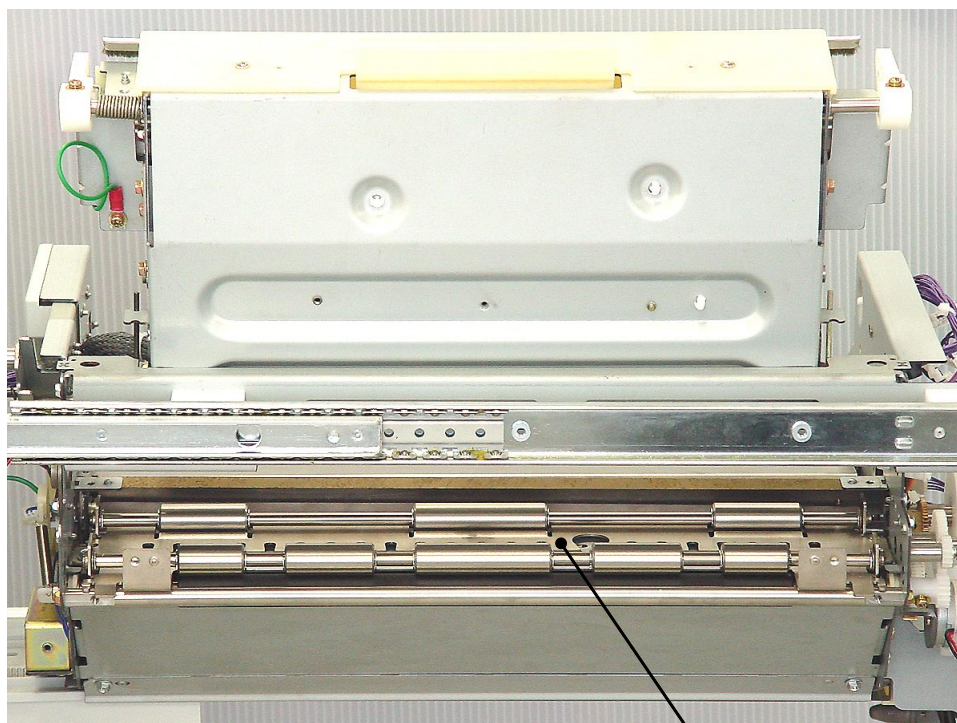
14. Removing the Clamping Guide Roller

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove the master making cover front.
- (3) Detach the master loading guide by removing screws (M3x6: 2pcs).
- (4) Detach the spur gear by removing screws (M3x8: 1pc).
- (5) Detach the snap ring from the rear side, unhook the metal bushing from the rear side frame and slide it inward. Slide the clamping guide roller towards the rear and unhook the metal bushing from the front side frame. Remove the clamping guide roller from the machine.



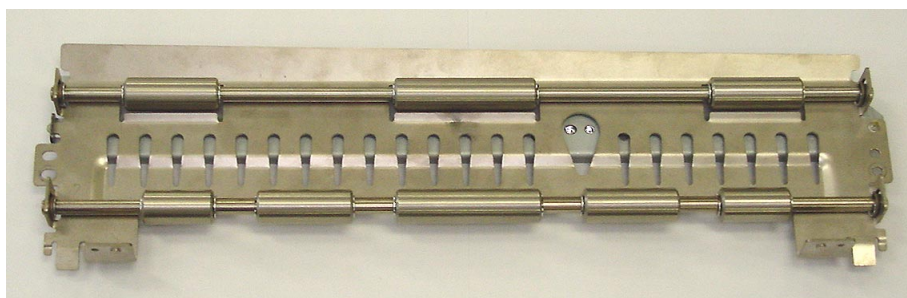
15. Removing the Cutter Guide Assembly

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the master making unit upper cover and remove following items.
 - Master roll
 - master making cover front
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Clamping guide roller
- (3) Detach the cutter guide assembly by removing screws (M3x6: 2pcs).



1456

Cutter guide assembly



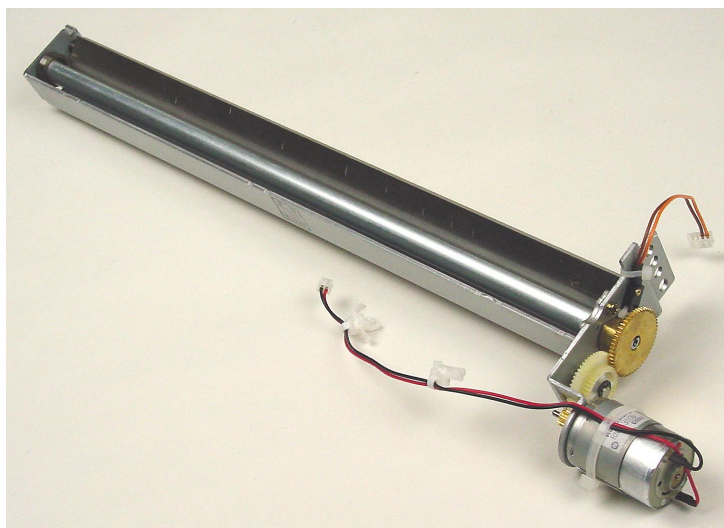
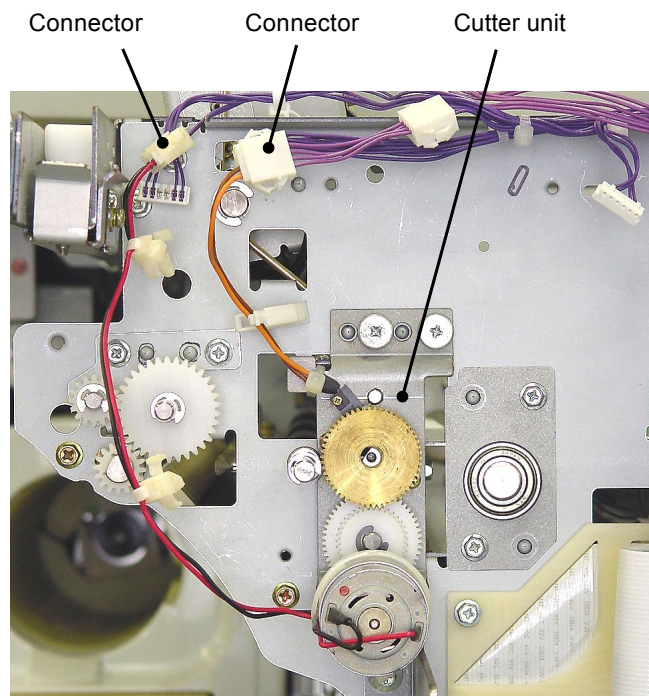
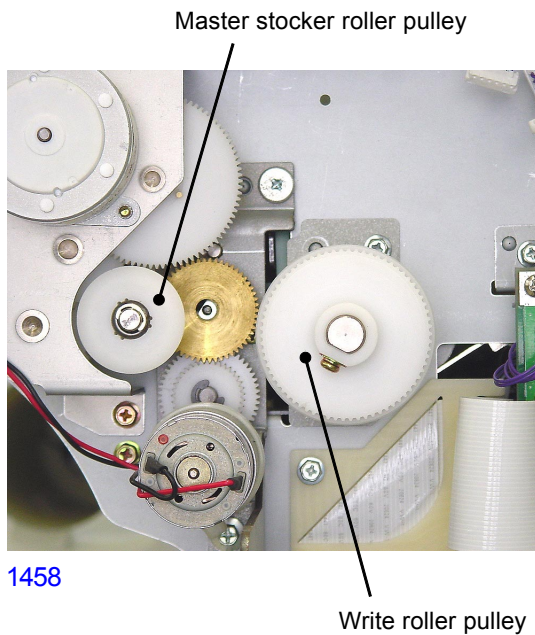
1457

< Cutter guide assembly >

16-1. Removing the Cutter Unit (Rotary cutter : A3/Ledger machines only)

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the pressure plate, remove the following components.

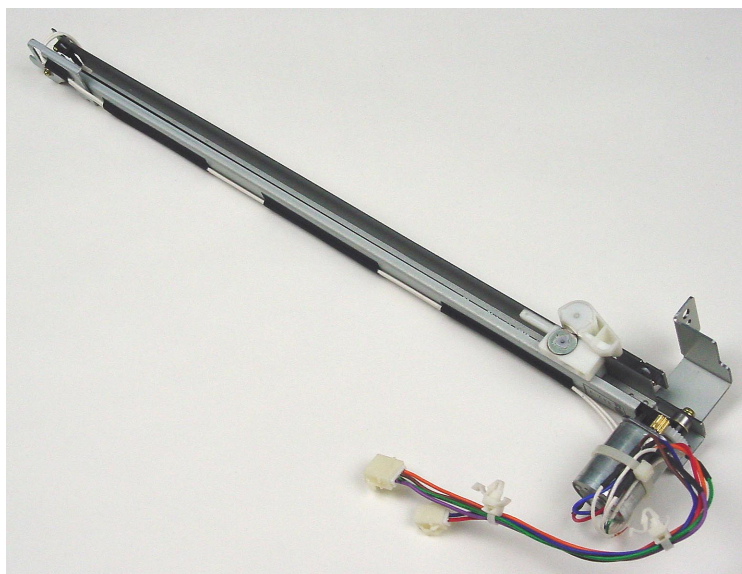
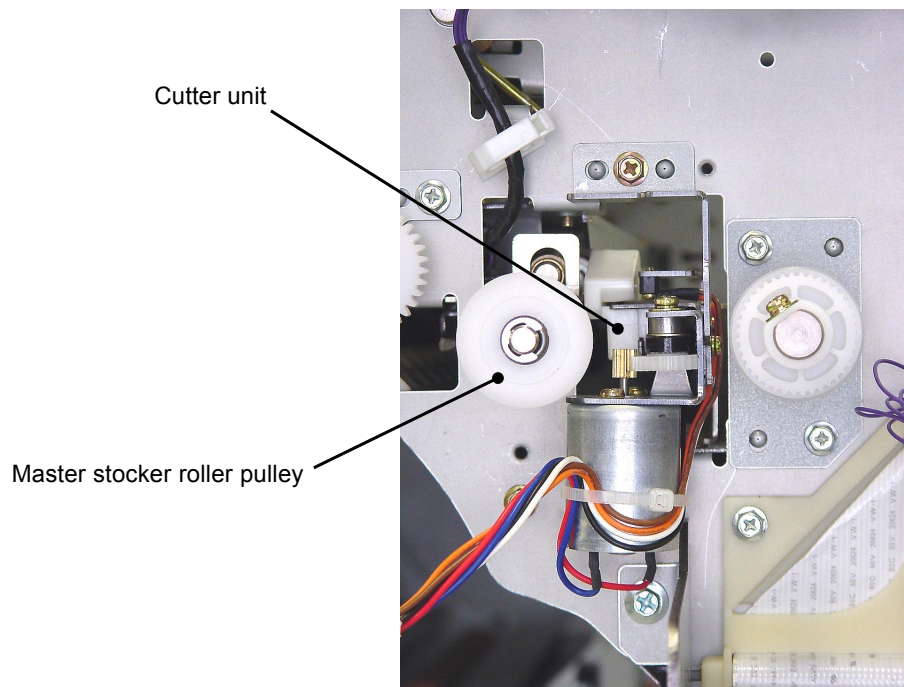
- Master roll	- Master making cover front
- Write pulse motor assembly	- Load pulse motor assembly
- Cutter cover assembly	- Master loading guide
- Load roller	- Cutter guide assembly
- Write roller pulley	- Master stocker roller pulley
- (3) Detach the cutter unit by unplugging the connectors (2 locations) and removing two shoulder screws.



< Cutter unit >

16-2. Removing the Cutter Unit (Shuttle cutter : excluding A3/Ledger machines)

- (1) Pull out the master making unit and switch off the machine power.
- (2) Open the pressure plate, remove the following components.
 - Master roll
 - Master making cover front
 - Master guide gate
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Master stocker roller pulley
- (3) Detach the cutter unit by unplugging the connectors (2 locations) and removing screw (M3x6: 1pc).

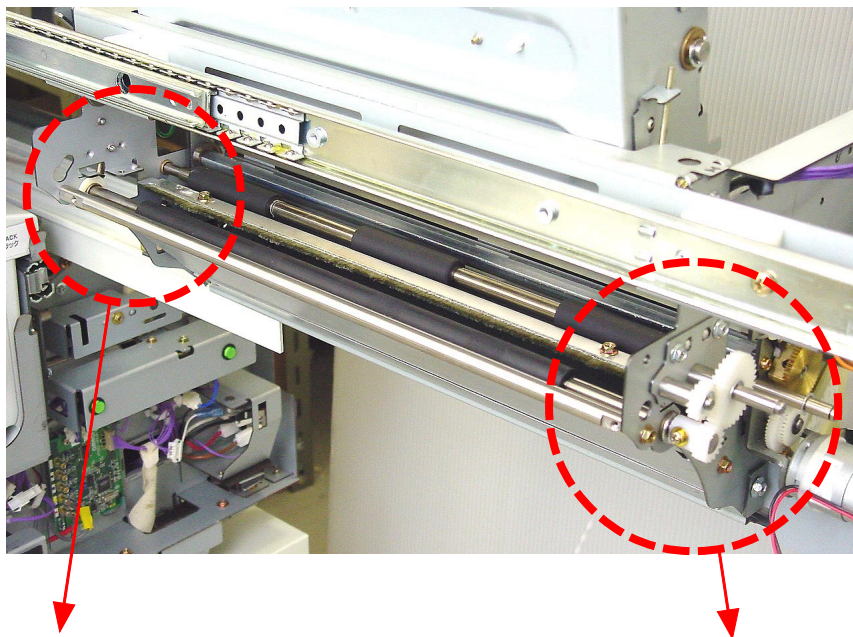


< Cutter unit >

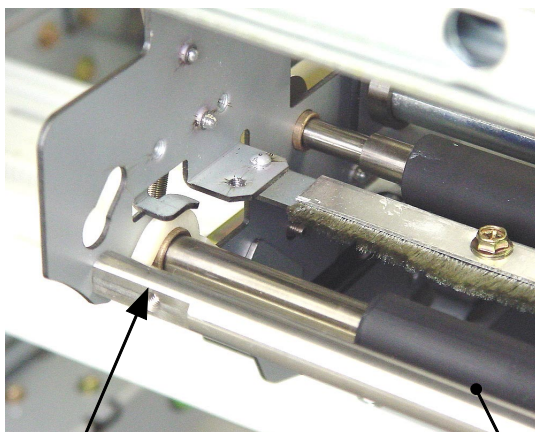
17. Removing the Load Roller (bottom)

- (1) Pull out the master making unit, switch off the power.
- (2) Open the compression plate, remove the following components.
 - Master roller
 - Master making cover front
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Clamping guide roller
 - Cutter guide assembly
- (3) Detach the spur gear by removing a screw (M3x8: 1pc).
- (4) Remove the E-rings from both sides, detach the load roller (bottom) by sliding it out to the front first, and then out through the side opening.

* The assembly is easier if the metal busings on the ends of the shaft are not removed when detaching the load roller (bottom)..



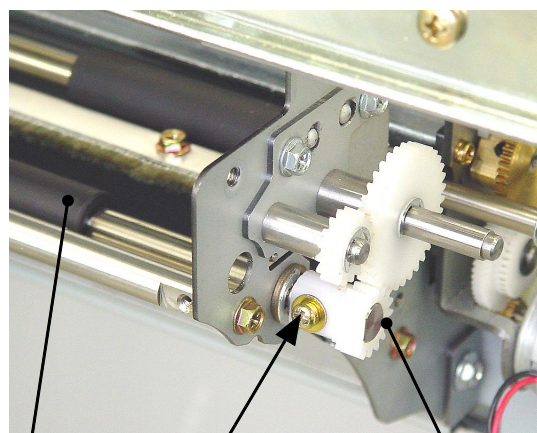
1463



1464

Bearing metal

Load roller (bottom)



1465

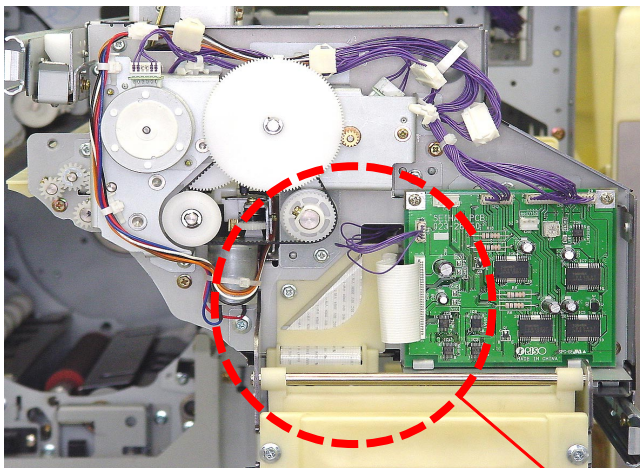
Bearing metal

Spur gear

18. Removing the Master Making Unit

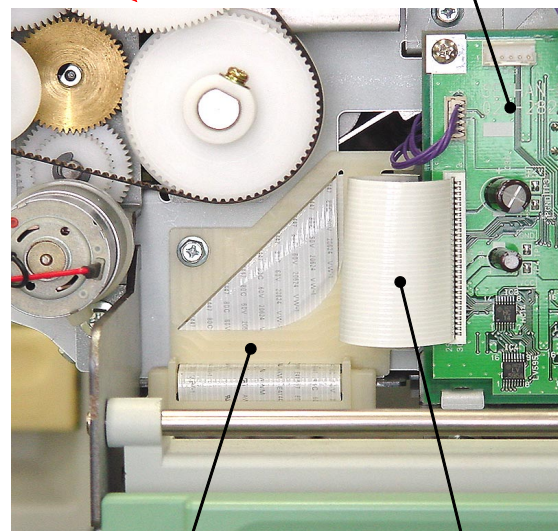
- (1) Pull out the master making unit and switch off the machine power.
- (2) Detach the master making cover front by removing screws (M4x8: 4pcs).
- (3) Unplug the master flat cable from the master making PCB.
- (4) Remove a screw (M3x8: 1pc) and detach the flat cable bracket. Then unhook the flat cable support plate from the master making unit side frame (front) and let it hang down.

- continues on next page -



1466

Master making PCB

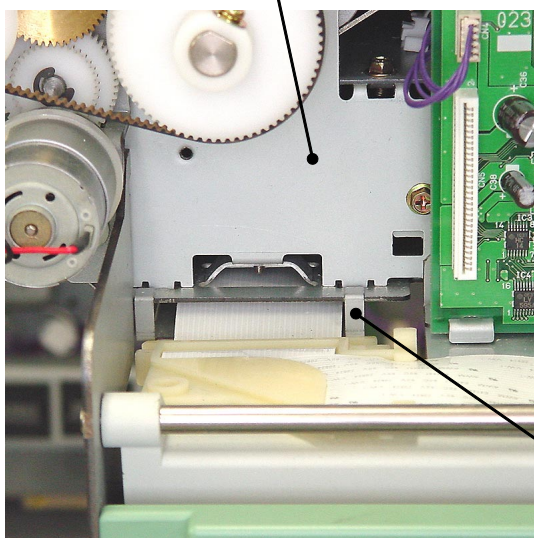


1467

Flat cable bracket

Master making unit flat cable

Master making unit side frame (front)



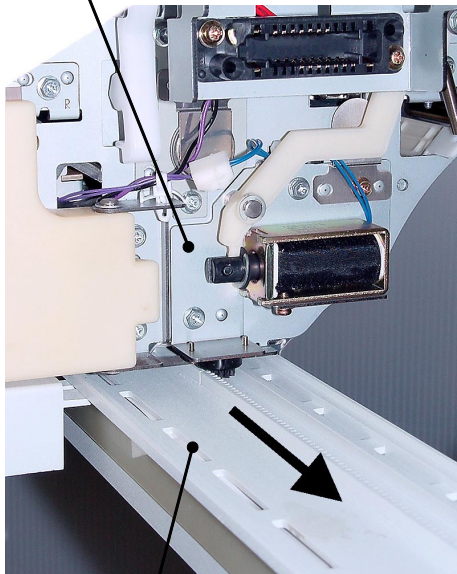
1468

Flat cable support plate

- (5) Pull out the flat cable guiding box in the direction indicated by an arrow mark on the photograph below, just enough to unhook from the master making unit, and disengage it from the maser making unit.
- (6) Push both the flat cable guiding box and flat cable support plate back into the machine.
- (7) From the top of the master making unit, remove the four shoulder screws and detach the unit from the machine by lifting it.

- Precaution in assembly continues on next page -

Master making unit

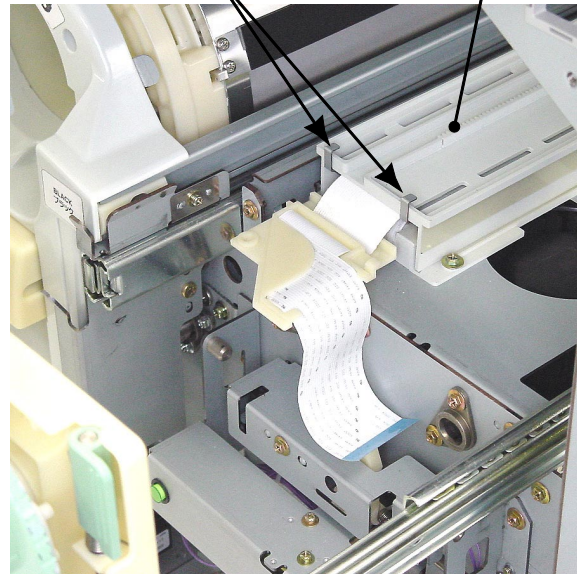


Flat cable guiding box

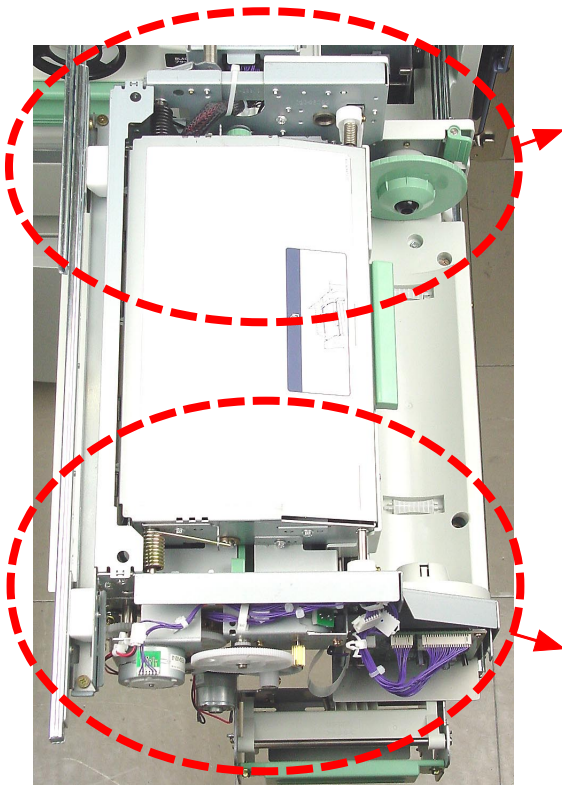
1469

Hooks on the flat cable support plate

Flat cable guiding box



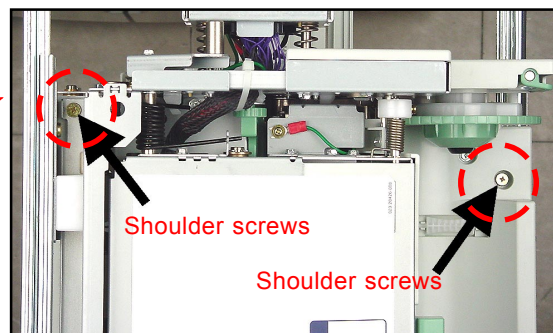
1470



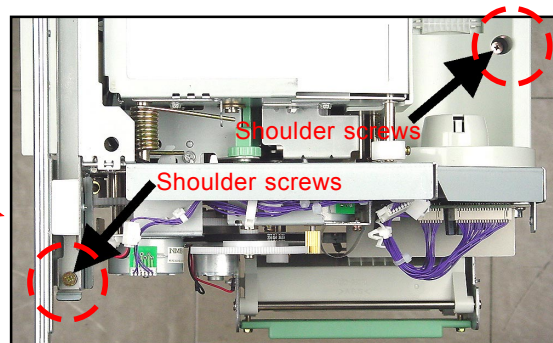
< Master making unit >

1471

< Rear >



1472

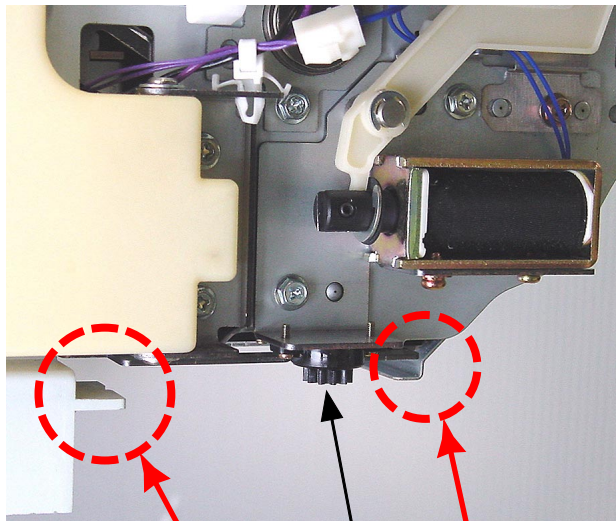


1473

< Front >

< Precautions in Disassembly >

- Insert the flanged portion of the flat cable guiding box through the support hooks on the bottom of the master making unit and engage the damper gear into the rack gear on the top surface of the flat cable guiding box.
- Place the cap portion of the flat cable bracket over the hooks on the front tip of the flat cable support plate and hook the catch on the flat cable bracket on the rectangular hole on the master making unit front frame.

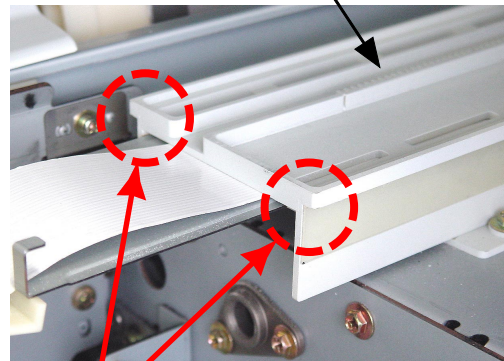


1474

Damper gear

Support hooks on the bottom of the master making unit

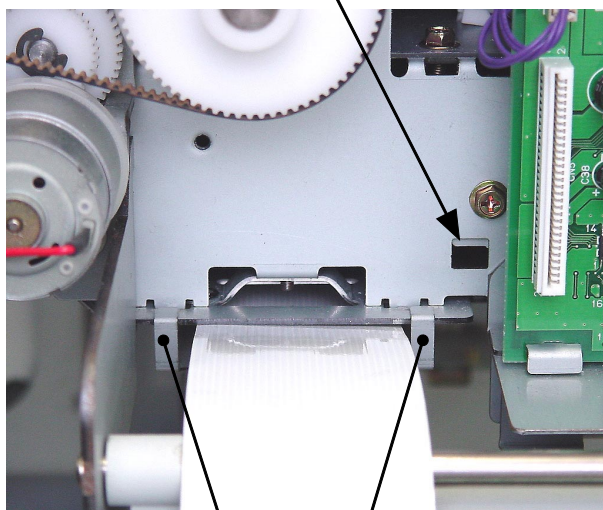
Rack gear molded on the flat cable guiding box



1475

Flanged portion on the flat cable guiding box

Rectangular hole to hook the flat cable bracket

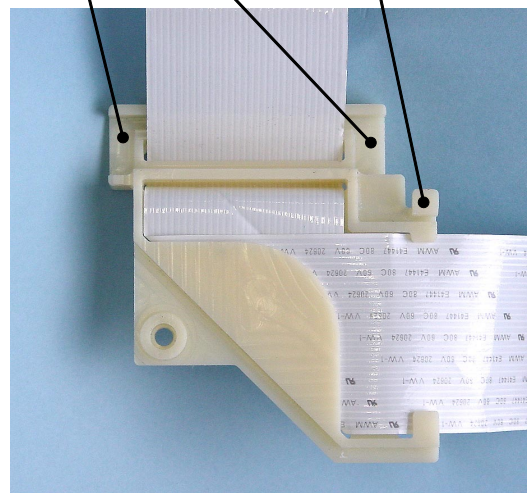


1476

Hooks at the tip of the flat cable support plate

Cap portion on the flat cable bracket

Catch on the flat cable bracket to hook into the rectangular hole on the master making unit.

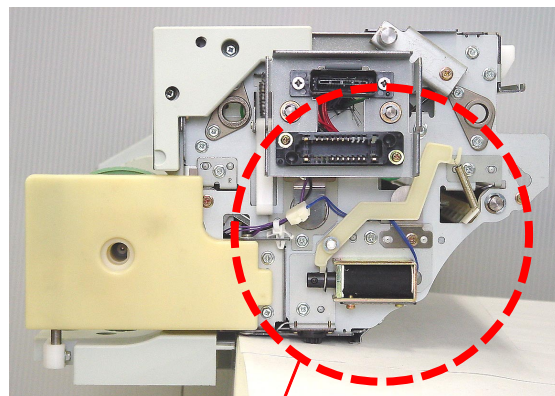


1477

19. Removing the Master Stocker Roller (bottom)

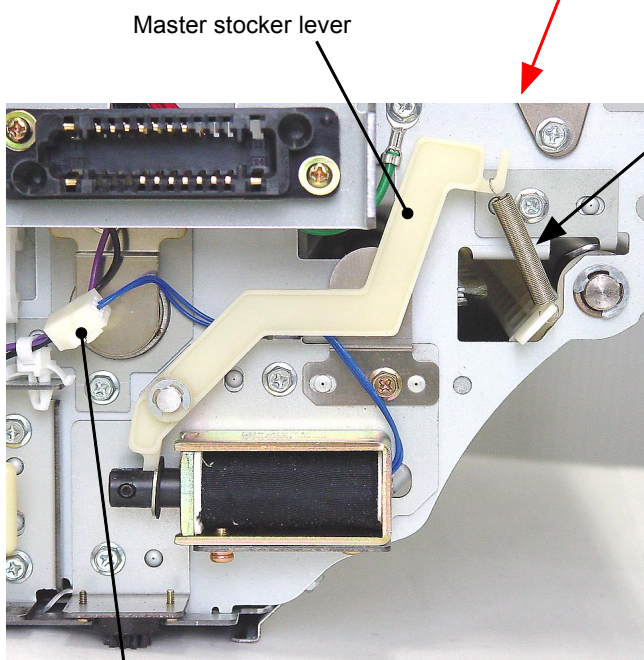
- (1) Pull out the master making unit and switch off the machine power.
- (2) Remove the following components.
 - Write pulse motor assembly
 - Load pulse motor assembly
 - Cutter cover assembly
 - Master loading guide
 - Clamping guide roller
 - Cutter guide assembly
 - master stocker roller pulley
- (3) Remove the master making unit from the machine.
- (4) Detach the master stocker spring from the master stocker lever.
- (5) Detach the master stocker solenoid assembly by disconnecting the solenoid connector and removing screws (M3x6: 2pcs).

- continues on next page -



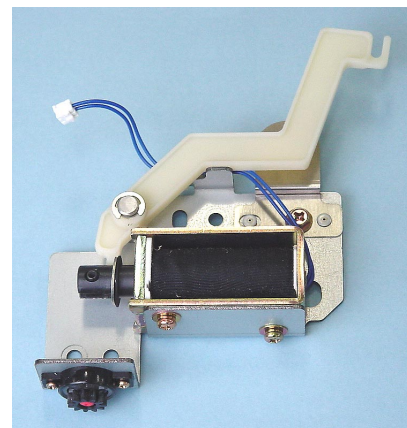
1478

< Rear of the master making unit >



Connector

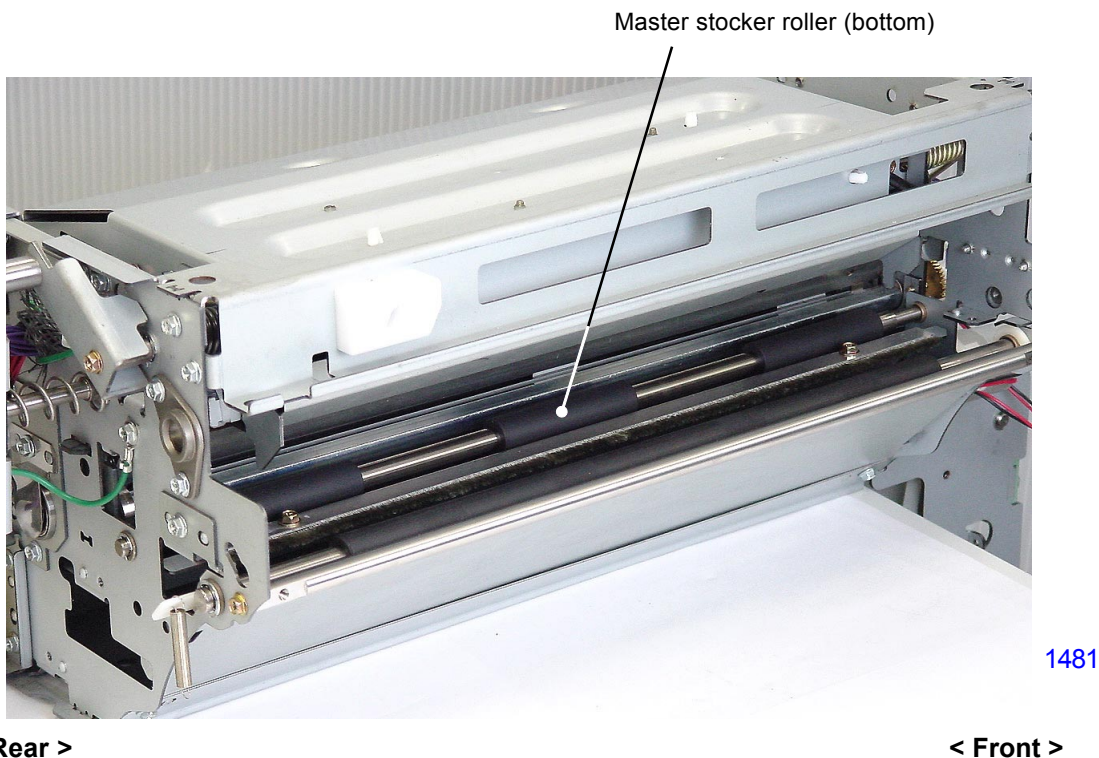
1479



1480

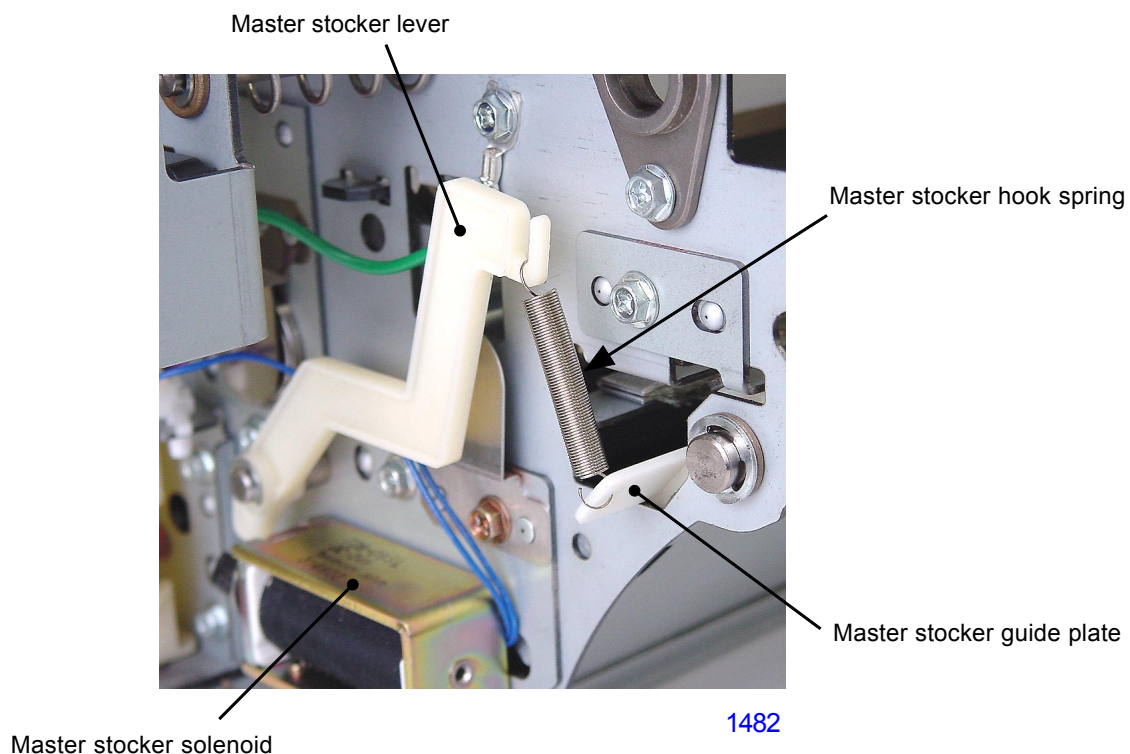
< Master stocker solenoid assembly >

- (6) Detach the master stocker roller (bottom) from the master making unit by removing E-rings and metal bushings from both ends of the roller.



< Precaution in Assembly >

The movement of the master stocker guide plate may stick if the master stocker spring is hooked twisted between the master stocker lever and master stocker guide plate. After hooking the spring, check and confirm that the master stocker guide plate opens and closes smoothly by pushing the plunger of the master stocker solenoid.



Adjustment

1. Thermal Power of Thermal Print Head

The thermal power must always be adjusted each time a TPH (thermal print head) is replaced.

- (1) Activate test mode No.9874 to access into the protected area test mode.
- (2) Run test mode No.1234 (TPH resistance input) and enter the resistance value imprinted on a sticker attached on each TPH. Press START key to enter the value.
- (3) Press <RESET> key to return to return back to the normal operation mode.

2. Master Clamp Range Adjustment

Checks and adjustment

- (1) Make a master and mark a short straight line at the center of the master along the edge of the clamp plate so the measurement of the mater under the clamp plate can be measured.
- (2) Open the clamp plate and measure from the leading edge of the master to the marking made. The measured length should be 18mm (plus or minus 1mm).
- (3) If the measurement is out of the specified range, make an adjustment using test mode No. 543 (master clamp range adjustment) clamp range adjustment.

* Increasing the setting by the test mode increases the master clamp amount.

3. Write Start Position Adjustment

Checks and adjustment

- (1) Run Test mode No.80 (Test print A) to make a master.
- (2) Remove the leading edge of the master by opening the clamp plate of the print drum and measure the distance from the leading edge of the master to the write start position (top of the image) to confirm that the distance is 63mm (plus or minus 1mm) measured at about the center of the master material.
- (3) If the measurement is out of the specified range, run test mode No.541 (Write start position adjustment) and make an adjustment.

* Increasing the settings by the test mode decreases the distance, moving the image up on the master material.

* Master Clamp Range Adjustment must be made before the Write Start Position Adjustment.

4. Master cut length adjustment

- (1) Make a master and measure the length of the master margin at the tail end of the master on the drum (distance from where the ink ends on the master material to the tail edge of the master). The distance should be 10.5mm (plus or minus 1.5mm).
 - (2) If the measured distance is out of the specified range, make an adjustment using test mode No.544 (master cut length adjustment).
- * Increasing the setting by the test mode increases length of the margin at the tail of the master, making the total length of each master longer.

5. Master making image Elongation and Shrinkage adjustment

Checks and adjustment

- (1) Run Test mode No.81 (Test print B) to make a master, and then make prints.
 - (2) Check by folding the printed paper and look through the top and bottom folded print. If the horizontal line length is twice as long as the vertical line length, the adjustment is correct.
 - (3) If the ratio between the horizontal and vertical lines differ, make an adjustment using test mode No.547 (master-making speed adjustment).
- * Increasing the setting by the test mode vertically elongates the image.

6. Master making length adjustment

Checks and adjustment

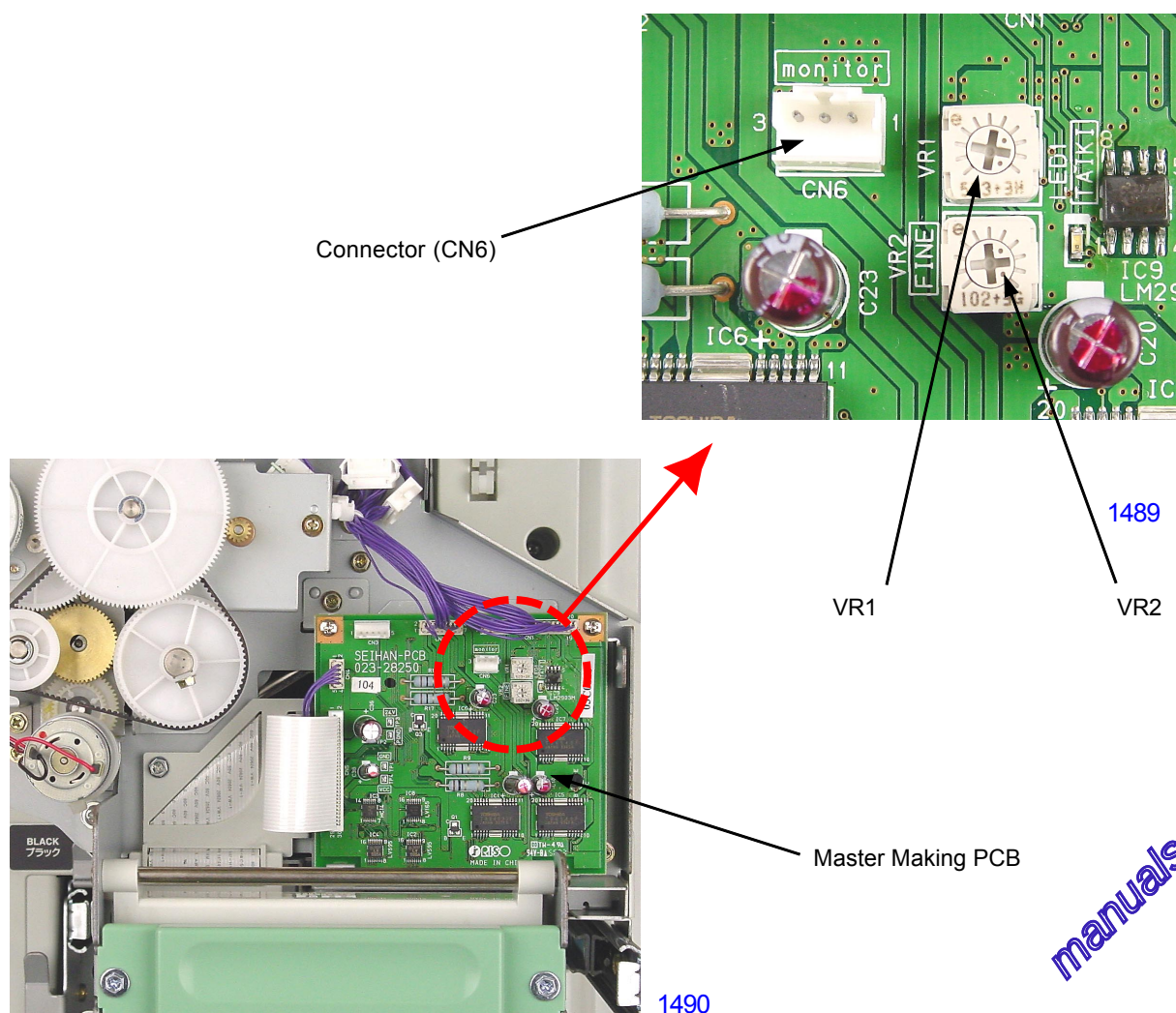
- (1) Run the Test mode No. 80 (Test print A) to make a master.
 - (2) Peel off the master from the print drum and measure the distance from the leading edge of the top image to the tailing edge of the bottom image created on the master. The distance should be 413mm.
 - (3) If the measured length is not 413mm, make an adjustment using test mode No.542 (master making length adjustment).
- * Increasing the setting by the test mode increases the master making length.

7. Master Positioning Sensor sensitivity adjustment

Make following adjustments after replacing Master positioning sensor.

Checks and adjustment

- (1) Pull out the Master making unit. If master material is set in the unit, rewind the master material back on the master roll, so no master is under the Master positioning sensor.
- (2) Detach the Master-making unit front cover.
- (3) With the machine power ON, using a multimeter, measure the voltage between pin No.1 (+) and pin No.3 (-) of connector (CN6) of the Master making PCB.
- (4) Confirm that the measured voltage is between 0.8 volt and 1.2 volts.
- (5) If the voltage is not within the above given range, slowly and gently rotate both volume dials VR1 and VR2 all the way in the clockwise direction until the dials stop.
- (6) Slowly rotate the dial VR1 (rough adjustment dial) in the counterclockwise direction until the voltage becomes about 2 volts.
- (7) Then slowly rotate the dial VR2 (fine adjustment dial) in the counterclockwise direction until the voltage comes down to the correct voltage setting within 0.8 volt to 1.2 volts. (If possible, aim for 1.0 volt.)



MEMO

CHAPTER 14: PANEL MESSAGE

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T93 , T94 , T95 , T96	14-13
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T98 (054 to 129)	14-15
T98 (245 to 979) , T99	14-16
A01 , A02 & A04	14-17
A05 , A06	14-18
A07 , A08 , A09 & A10	14-19
A16 , A17 , A34	14-20
B01 , B22 , B23 , B24	14-21
B31 , B32 , B33 , B34 , B35	14-22
C01 , C02 , C03 , C04	14-23
D01 , D02 , D03	14-24
D04 , D05 , D07 , D08	14-25
D09 , D11 , D13 , D17	14-26
D18 , D19 , D22	14-27
E01 , E02	14-28
F01 , F02 , F03 , F05	14-29
F10 , F17 , F37 , F43	14-30
F45 , F47 , F52 , F58	14-31
F60 , F62 , F66 , F67	14-32
F90 , F91	14-33
H1 , H2 , H3 , H4 , H5 , H6	14-34
J**	14-35
4. Errors Requiring Special Attention	14-35

1. Explanation of Panel Messages

Overview of the messages

1) Error-code displays

If an error occurs, an error message is displayed on the LCD panel of the machine, in Error-code display and in graphics, to indicate the machine problem to the operator.

Error-code displays consist of an “error type” indicating the type of error and an “error-point number” indicating the error situation.

Example: T01-520 T01: Error type
 520: Error point

1. Error type

The order of error priority is as specified below.

Error Type	Description
T	Serviceman-call error
A	Jam error
B	Option error
C	Consumable error
D	Set check error
E	Warning (Serviceman call)
F	Warning (Other)
J	Paper/Original jam error
H	Parameter value input

2. Error point

The error-point classification are as specified below.

Error Point	Description
0XX	System (hardware, software, communication), Operation panel
1XX	Scanning section (scanner, AF), image processing
2XX	Master making section
3XX	Master-disposal section
4XX	Paper-feed/ejection section
5XX	Print-drum area
6XX	Printing adjustment section (vertical, horizontal, density)
7XX	Optional accessories

2. List of Error Types

Error Type	Description
T01	Main motor lock
T02	Elevator motor lock
T03	Clamp motor lock
T04	Overflow
T05	Print-positioning pulse-motor lock
T11	Horizontal pulse-motor lock
T12	Master disposal section motor lock
T13	Cutter motor lock
T14	Flatbed error
T15	AF error
T17	Solenoid counter not connected
T18	Drum-lock solenoid lock
T19	Thermal-pressure motor lock
T20	Paper-ejection-section motor lock
T24	Inking motor lock
T25	No battery error
T89	Master compression plate error
T91	Operation panel EEPROM error
T92	Drum EEPROM write error
T93	NET-C hardware error
T94	Call service error: TPH
T95	FRAM error
T96	Data not input
T97	PC card access error
T98	Hardware error

Error Type	Description
A01	Master feed error
A02	Master loading error
A04	Master-removal error
A05	Master present in the master-disposal area
A06	Check paper-feed tray
A07	Paper-feed error
A08	Paper jam on print drum
A09	Paper-ejection error
A10	AF original feed error
A16	Awaiting for the master to be removed from the drum
A17	Cutter error
A34	Requesting for master to be reset

Error type	Description
B01	Keycard counter: No card
B22	Job separator: Power OFF
B23	Job separator: No tape
B24	Job separator: Tape jam
B31	Linked printer: Data communication error
B32	Network cable not connected
B33	IP address setup error
B34	Linked printer: No toner
B35	Linked printer: Call service error

CHAPTER 14: PANEL MESSAGE

Error Type	Description
C01	Replace ink cartridge
C02	Replace master roll
C03	Master disposal box full
C04	No paper on the paper feed tray

Error type	Description
D01	Print drum not set
D02	Incorrect print drum
D03	Ink cartridge not set
D04	Incorrect ink cartridge
D05	Master not set
D07	Master-disposal box not set
D08	Master making unit not set
D09	Master making unit cover not closed
D11	Front cover not closed
D13	Rear cover not closed
D17	Incorrect master roll
D18	Print drum is ready for removal
D19	Master making unit is ready for removal
D22	Print drum removal command

Error type	Description
E01	Replace battery
E02	Maintenance call

Error type	Description
F01	No master on print drum
F02	Master image larger than paper size: 1
F03	Multi-up printing - Incorrect paper size
F05	Print quantity under "minimum print quantity"
F10	Master image larger than paper size: 2
F17	Incorrect print drum size
F37	Book/AF
F43	AF cannot be used in book mode
F45	Linked printer error
F47	Linked printer error - No paper
F52	Linked printer error - Job interrupted
F58	Book editing not available with AF
F60	Master-making confirmation when linked printer is selected (when print quantity = 0)
F62	Linked printer auto selection: Linked printer error
F66	Linked printer: Saddle-stitch error
F67	Linked printer: Rotation sort error
F90	Stock management (ink)
F91	Stock management (master)

3. Detailed List of Panel Messages

Service call errors

Error Type	T01 [Main motor lock]
Description	T01-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key
Error Point	Error Conditions
520	Main encoder sensor does not go ON/OFF within 10 milliseconds after the main motor activates.
521	B-positioning sensor status does not change even after 3,033 pulses after the main motor activates.
524	Clamp unit is not at the home position while the print drum is in operation (except during master disposal).
537	Print drum failed to stop at position B.
538	Print drum is not locked during operation. (Drum lock sensor: OFF)

Error Type	T02 [Elevator motor lock]
Description	T02-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key or turn OFF and ON the power.
Error Point	Error Conditions
400	Both the upper and lower limit sensors are ON at the same time.
401	Overload current was detected in the elevator motor.
404	The lower-limit sensor does not go OFF within 2 seconds after the elevator motor operates in the raising direction from the lower-limit position.
405	The upper-limit sensor does not go ON within 12 seconds after the elevator motor operates in the raising direction.
406	The upper-limit sensor does not go OFF within 2 seconds after the elevator motor operates in the lower direction from the upper-limit position.
407	The lower-limit sensor does not go ON within 12 seconds after the elevator motor operates in the lowering direction.
408	The upper-limit sensor is OFF continuously for over 2 seconds during operation of the elevator servo action to raise the feed tray.

Error Type	T03 [Clamp motor lock]
Description	T03-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key
Error Point	Error Conditions
500	Clamp sensor A is OFF after the completion of the clamp unit initialization or home positioning movement.
501	Clamp sensor B does not change within 1 second from the time the clamp motor operates in the forward direction.
502	Clamp sensor B does not change within 1 second from the time the clamp motor operates in the reverse direction.
503	Clamp sensor A does not go ON within 3 seconds when the clamp unit makes initialization movement.
504	At the start of Clamp plate open/close action, the detection sequence of clamp-sensors A & B are abnormal.
505	At the start of print drum Position-A compensation movement, the detection sequence of clamp-sensors A & B are abnormal.
506	At the start of Clamp unit Home-positioning movement, the detection sequence of clamp-sensors A & B are abnormal.
507	Clamp sensor A is ON after the clamp release action is completed.
508	Clamp sensor A is ON after the A-position compensating movement is completed.
545	Clamp unit is not in the home position while the print drum is in movement (cause due to the clamp motor).

Error Type	T04 [Ink overflow]
Description	T04-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key after correcting the ink overflow condition. (No ink on the ink overflow sensor.)
Error Point	Error Conditions
513	The overflow sensor is ON for a set number of times in succession during the 10-millisecond-interval overflow-sensor check.

Error Type	T05 [Print positioning pulse motor lock]
Description	T05-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key or turn the power OFF and ON.
Error Point	Error Conditions
603	The vertical-centering sensor does not switch ON even when the vertical-positioning pulse motor activated in the image-down direction for 5.5 seconds during vertical home positioning movement.
604	The vertical-centering sensor does not switch OFF even when the vertical-positioning pulse motor activated in the image-up direction for 5.5 seconds during vertical home positioning movement.
605	Even though the vertical positioning motor stopped according to the vertical centering sensor detection, the stopping position does not correspond with the programmed position. (GA control error).
612	The print positioning key is pressed with vertical-print-position information undefined.

Error Type	T11 [Print positioning pulse motor lock]
Description	T11-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key or turn the power OFF and ON.
Error Point	Error Conditions
600	Print pressure HP sensor does not switch ON within 5 seconds after the print pressure pulse motor activated towards higher pressure during home positioning operation.
601	Print pressure HP sensor does not switch OFF within 5 seconds after the print pressure pulse motor activated towards lower pressure during home positioning operation.
602	Even though the print pressure control pulse motor stopped according to the print pressure HP sensor detection, the stopping position does not correspond with the programmed position. (GA control error).
614	Print pressure pulse motor does not complete its movement even after 7 seconds from the print pressure HP movement to move -1000 pulses.

Error Type	T12 [Master-disposal-section motor lock]
Description	T12-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key.
Error Point	Error Conditions
300	Overload current was detected in the master removal motor.
301	Master compression motor lock when moving compression plate up.
305	Master compression sensor does not go ON within 6.5 seconds after the master compression motor operates in the return direction.
306	Master compression sensor does not go OFF within 2 seconds after the master compression motor operates in the compress direction.
307	Master compression plate maximum position is not detected within 6.5 seconds after the master compression motor operates in the compress direction.
309	Master-compression-motor encoder sensor count did not change as the master compression motor activated in the compress direction and moved out from the home position.
316	Master-compression-motor encoder sensor count did not change within 10 milliseconds after the master compression motor activated.

Error Type	T13 [Cutter motor lock]
Description	T13-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key.
Error Point	Error Conditions
203	Cutter HP switch does not go OFF within 100 milliseconds after the cutter motor is activated.
204	Cutter HP switch does not go ON within 300 milliseconds after the cutter motor is activated.
205	Master-positioning sensor is ON when the print drum rotates through the preset angle following master cutting.
222	Cutter HP switch does not go ON within 450 milliseconds after the cutter home positioning operation started.

Error Type	T14 [Flatbed error]
Description	T14-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key.
Error Point	Error Conditions
114	Incorrect main-unit data.
115	The scanner operation is not completed within the set time.
116	Timeout error for black shading compensation.
117	Timeout error for white shading compensation.
118	Software error
123	Offset adjustment not completed within set time.
124	Gain adjustment not completed within set time.
125	Offset adjustment not completed.
126	Gain adjustment not completed.
135	Malfunction detected during offset adjustment.
136	Malfunction detected during gain adjustment.
137	Malfunction detected during black shading compensation.
138	Malfunction detected during white shading compensation.
170	Even though the read pulse motor stopped according to the sensor detection, the stopping position does not correspond with the programmed position. (GA control error).

Error Type	T15 [AF error]
Description	T15-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn OFF and ON the power.
Error Point	Error Conditions
004	Communication error with AF-CPU.
110	ABC (auto-base-control) timeout. The original does not move from the ABC scanning position on the AF unit.
111	Operation command was made to the AF unit without 24 volts supplied to the AF unit.
130	Timeout error in receiving reply from the AF unit after command signal was sent from the Riso printer to the AF unit.
131	Riso printer received an undefined command from the AF unit.
132	Riso printer detected communication sequence error from the AF unit.
133	Communication error with AF unit (ACK, NAK, or receiving channel error).
134	Riso printer could not send command to the AF unit within the set time.
160	AF unit detection signal went OFF while the AF unit is in operation.
161	AF unit not connected.

Error Type	T17 [Solenoid counter not connected]
Description	T17-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Connect the solenoid counter.
Error Point	Error Conditions
020	Solenoid counter is not connected.

Error Type	T18 [Drum-lock-solenoid lock]
Description	T18-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset key
Error Point	Error Conditions
531	Print drum lock sensor is still ON even after 100 milliseconds after the print drum lock solenoid is activated.

Error Type	T19 [Thermal-pressure motor lock]
Description	T19-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset key
Error Point	Error Conditions
207	TPH pressure sensor does not go OFF within 2 seconds after the thermal-pressure motor activates in the decompressing direction, or during home positioning operation.
208	TPH pressure sensor does not go ON within 2 seconds after the thermal-pressure motor activates in the decompressing direction.
216	TPH pressure sensor does not go OFF within 2 seconds after the thermal-pressure motor activates in the compressing direction.
217	TPH pressure sensor does not go ON within 2 seconds after the thermal-pressure motor activates in the compressing direction.

Error Type	T20 [Paper-ejection-section motor lock]
Description	T20-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset key
Error Point	Error Conditions
414	Paper ejection wing HP sensor status does not change within set time after the paper ejection wing motor activated for the wing home position movement.
415	Paper-ejection-wing home sensor does not go OFF within 7 seconds after the paper ejection wing motor activates in the clockwise direction from the home position.
416	Overload current was detected in the paper-ejection motor.
437	Paper-ejection encoder sensor status does not change within 10 milliseconds after the paper-ejection motor is activated.
442	Though the paper ejection wing motor stopped correctly at the wing sensor position, the stopping position does not correspond with the programmed position (GA control error).

Error Type	T24 [Inking motor lock]
Description	T24-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset key or turn the power OFF and ON.
Error Point	Error Conditions
539	Inking-motor FG sensor status does not change within 20 milliseconds after the inking-motor is activated.

Error Type	T25 [Inking motor lock]
Description	T25-xxx !!!Low Battery!! Call Service
To reset display	Replace the battery.
Error Point	Error Conditions
026	Battery voltage is too low when the power is turned ON. (Readjust the machine clock after replacing the battery.)

Error Type	T89 [Master compression plate: incorrect position]
Description	T89-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
350	The clamp unit is not in the clamp-plate open position and also the master compression plate is not in the HP position when the print drum starts its movement. (This is to protect the machine parts.)

Error Type	T91 [Panel EEPROM error]
Description	T91-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key
Error Point	Error Conditions
968	Panel EEPROM read error.
969	Panel EEPROM write error.
976	Panel EEPROM check-sum error.
977	Panel EEPROM verify error.

Error Type	T92 [Drum EEPROM write error]
Description	T92-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key
Error Point	Error Conditions
570	EEPROM on the print drum PCB is being accessed while the print drum is in releasing action from the machine.

Error Type	T93 [NET-C2 hardware error]
Description	T93-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
932	No reply from the NET-C2 network interface card while accessing to the network interface card.
933	No response from NET-C2 for 90 seconds during NET-C2 initialization.

Error Type	T94 [Call service error: TPH]
Description	T94-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
225	TPH code does not match with the machine code when the power is turned ON with the master-making unit in operating position or when the master-making unit is inserted in operating position while the power is ON.

Error Type	T95 [FRAM error]
Description	T95-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn the power OFF and ON.
Error Point	Error Conditions
059	Machine serial-number information sent from SH3M2-PCB does not match with the machine serial number information in the MCTL PCB.

Error Type	T96 [Data not input]
Description	T96-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Input the parameters using test mode.
Error Point	Error Conditions
171	TPH resistance value not input.
172	Scanner adjustment not completed.
433	Paper size width potentiometer test-mode setting is not completed.
569	Either the print drum color information or ink category information is still not input.
613	Print pressure data missing.
972	REv data storage area is not initialized.

Error Type	T97 [PC card access error]
Description	T97-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Press Reset Key
Error Point	Error Conditions
939	PC card access error: PC card not set.
940	PC card access error: PCMCIA card information error.
941	PC card access error: CF card device error.
942	PC card access error: Same file already exists.
943	PC card access error: Not formatted.
944	PC card access error: Media ID error.
945	PC card access error: Media error (cannot access the PC card).
946	PC card access error: Media error (not enough blank space available on CF card).
990	PC card access error: Specified file not found on the selected drive.
991	PC card access error: Accessed to the file not opened.
992	PC card access error: File information folder is already in use.
993	PC card access error: Incorrect setting on the readout address when sending data to the machine.
994	PC card access error: Unsuccessful file deleting.

Error Type	T98 [Hardware error]
Description	T98-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn power OFF and ON.
Error Point	Error Conditions
002	No reply from SH3M2 PCB. If SH3M2 PCB signal is detected at machine power ON, but if the PCB communication terminates and T98-069 error is detected, the error point is rewrote to this T98-002 error message.
005	Hardware error
006	FRAM check-sum error
025	Defective RF PCB (Unsuccessful initial communication with RF PCB).
034	Unable to write on EEPROM on the machine. (Cannot access EEPROM).
035	CRC error on EEPROM on the machine (Defective EEPROM data).
038	Information between the PCB and EEPROM does not match.
039	Incorrect EEPROM.
051	Communication error with the touch-panel controller.
053	Unsuccessful data readout from the Memory setting (program, mode, user paper).

Error Type	T98 [Hardware error]
Description	T98-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn power OFF and ON.
Error Point	Error Conditions
054	Unsuccessful data writing of the Memory setting (program, mode, user paper).
055	Machine code number sent from SH3M2 PCB does not match with that from the Mechanical control PCB.
063	Test mode setting is beyond the adjustable range.
064	Communication error between SH PCB and MCTL PCB.
065	Communication error between SH PCB and MCTL PCB (01) - on MCTL PCB side.
067	Communication error between SH PCB and MCTL PCB (03) - on MCTL PCB side.
068	Communication error between SH PCB and MCTL PCB (04) - on MCTL PCB side.
069	Communication error between SH PCB and MCTL PCB (05) - on MCTL PCB side.
070	Communication error between SH PCB and MCTL PCB (06) - on MCTL PCB side.
071	Communication error between SH PCB and MCTL PCB (07) - on MCTL PCB side.
072	Communication error between SH PCB and MCTL PCB (08) - on MCTL PCB side.
073	Communication error between SH PCB and MCTL PCB (09) - on MCTL PCB side.
074	Communication error between SH PCB and MCTL PCB (10) - on SH PCB side.
075	Communication error between SH PCB and MCTL PCB (11) - on SH PCB side.
076	Communication error between SH PCB and MCTL PCB (12) - on SH PCB side.
077	Communication error between SH PCB and MCTL PCB (13) - on SH PCB side.
078	Communication error between SH PCB and MCTL PCB (14) - on SH PCB side.
079	Communication error between SH PCB and MCTL PCB (15) - on SH PCB side.
080	Communication error between SH PCB and MCTL PCB (16) - on SH PCB side.
081	Communication error between SH PCB and MCTL PCB (17) - on SH PCB side.
082	Communication error between SH PCB and MCTL PCB (18) - on SH PCB side.
083	Communication error between SH PCB and MCTL PCB (19) - on SH PCB side.
084	Communication error between SH PCB and MCTL PCB (20) - on SH PCB side.
098	Machine serial number information on EEPROM does not match with that of FRAM.
119	Defective image PCB (memory check error on the image processing IC).
120	Timeout on the scanner serial communication.
129	Defective scanner gate array PCB (memory check error on the gate array).

Error Type	T98 [Hardware error]
Description	T98-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn power OFF and ON.
Error Point	Error Conditions
245	Timeout error on master transfer during master-making (related to Write pulse motor).
246	Timeout error on master transfer during master-making (related to Load pulse motor).
934	Communication error between MCTL PCB and RF PCB. (on FR PCB side)
935	Communication error between MCTL PCB and RF PCB. (on MCTL PCB side)
937	Undefined serial number.
938	FRAM version down.
947	24V-A does not go ON. (Possible broken Fuse for 24V-A area).
948	24V-A does not go ON. (Possible broken Fuse for 24V-B area).
949	24V-A does not go OFF.
950	24V-B does not go OFF.
952	SH3M2 PCB flash memory check-sum error.
953	Unsuccessful writing on the SH3M2 PCB flash memory.
960	Unsuccessful readout from the SH3M2 PCB flash memory.
961	SH3M2 PCB flash memory unused.
978	Incorrect power ON command from MCTL PCB when machine power turned ON.
979	Abnormal flash memory setting on the SH3M2 PCB.

Error Type	T99 [Software error]
Description	T99-xxx !!System Error!! Press Reset Key If Recovery has Failed, Call Service
To reset display	Turn power OFF and ON.
Error Point	Error Conditions
982	Wrong loader.

Jam errors

Error Type	A01 [Master feed error]
Description	A01-xxx Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place.
To reset display	Open the master-making unit and rewind the master material on the master roll, and then reset the master, or turn OFF the power and power back ON.
Error Point	Error Conditions
201	Master-positioning sensor does not go ON even after the write pulse motor is activated during the master-positioning, master-cut, or master-loading operation.
202	Master-positioning sensor does not go OFF even when the write pulse motor is reversed during the master-positioning or at start of master-making operation.
211	Master-positioning sensor is ON during standby.
214	Master-positioning sensor is ON at the start of master making.
215	Faulty gate-array control for the write pulse motor (motor does not stop within set time).

Error Type	A02 [Master loading error]
Description	A02-xxx Master Loading Error Pull Out Print Cylinder and Discard Master.
To reset display	Pull out the print cylinder and set it back.
Error Point	Error Conditions
509	Master-loading sensor was OFF when the master was checked at a specified drum angle during the master-loading operation.

Error Type	A04 [Master disposal error]
Description	A04-xxx Master Disposal Error Pull Out Print Cylinder and Discard Master.
To reset display	Pull out the print cylinder and set it back.
Error Point	Error Conditions
303	Master-disposal jam sensor was OFF at both 120 and 180 degrees drum angle.

Error Type	A05 [Master present in the master disposal area]
Description	A05-xxx Master Jammed in Disposal Unit Pull Out Master Disposal Box and Remove Jammed Master
To reset display	Pull out master disposal box and place it back after removing the jammed master in the master disposal area, or turn OFF the power and power back ON.
Error Point	Error Conditions
304	Master disposal jam sensor was ON at the completion of the master disposal.
312	Master disposal jam sensor was ON at the start of the master making.
315	Master disposal jam sensor was ON after the completion of the recovery movement.

Error Type	A06 [Check paper feed tray]
Description	A06-xxx Safety SW on Standard Feed Tray is Activated Reset paper on Standard Feed Tray
To reset display	Change the condition of the paper-feed-tray upper/lower safety switches to ON condition, or turn OFF the power and power back ON.
Error Point	Error Conditions
403	Either the upper or lower safety switch of the paper-feed-tray is OFF. Note: This detection is not made when the machine is in low-power-mode (24V OFF).

Jam error message which comes up after pressing the asterisk key in J message**

Error Type	A07 [Paper feed error]
Error Point	Error Conditions
409	Paper-ejection sensor was OFF when the paper should have arrived, and the paper sensor was ON when the machine stopped (Paper misfeed).
412	Paper sensor was OFF three times in succession when a paper misfeed was detected (paper misfeed).
418	The paper sensor was ON at the start of machine operation when the START button was pressed.
429	Paper feed error (recovery error).
432	Paper sensor was ON when the machine went into paper feed retry movement after a paper misfeed.

Jam error message which comes up after pressing the asterisk key in J message**

Error Type	A08 [Paper jam on print drum]
Error Point	Error Conditions
410	Paper-ejection sensor was OFF when paper should have arrived, and the paper sensor was OFF when the machine stopped (paper jam on the print drum).
430	Paper jam on print drum (recovery error).

Jam error message which shows up after pressing the asterisk key in J message**

Error Type	A09 [Paper ejection error]
Error Point	Error Conditions
411	Paper-ejection sensor was ON when the paper should have left the paper-ejection sensor.
417	Paper-ejection sensor was ON at the start of machine operation when the START button was pressed.
431	Paper-ejection error (recovery error).

Jam error message which shows up after pressing the asterisk key in J message**

Error Type	A10 [AF original feed error]
Error Point	Error Conditions
102	The original is pulled out from the AF unit before the scanning is completed.
103	Original jammed under AF registration sensor.
105	Original jammed under AF Read sensor.
106	Original jammed under original ejection sensor.
107	Original does not arrive to the AF Registration sensor.
108	Original does not arrive to the AF Read sensor.
109	Original does not arrive to the original ejection sensor.
169	AF feed cover is opened due to original jam, while originals are present on the tray.

Error Type	A16 [Waiting for the master to be removed from the drum]
Description	A16-xxx Master Remains on Print Cylinder (Drum) Pull Out Print Cylinder and Remove Master
To reset display	Pull out the print cylinder (drum), remove the master around it and insert it back.
Error Point	Error Conditions
525	Waiting for the master to be removed from the print cylinder (drum).

Error Type	A17 [Cutter error]
Description	A17-xxx System Error in Master Making Unit Take Out Master and then Close Master Making Unit Cover
To reset display	Open the Master making unit, remove the master and close the master making unit.
Error Point	Error Conditions
209	Cutter HP switch is OFF when master-making starts, when the master material is set in the master making unit, or when the machine goes into idle condition.

Error Type	A34 [Requesting for the master to be reset]
Description	A34-xxx Master Not Set in Place Insert Lead Edge of Master into Master Entrance and Close Master Making Unit
To reset display	Open the Master making unit, re-insert the master material into the master making unit.
Error Point	Error Conditions
218	Requesting for the master material to be reset into the master making unit.

Option errors

Error Type	B01 [Keycard counter: No card]
Description	B01-xxx Insert Card in Key/Card Counter
To reset display	Insert card.
Error Point	Error Conditions
730	Keycard counter: No card

Error Type	B22 [Job separator: Power off]
Description	B22-xxx !! Job Separator is OFF !! Turn On Power Switch of it
To reset display	Press Reset Key and check and switch ON the power of Job Separator.
Error Point	Error Conditions
721	With the "Tape separation" function set ON, no power is supplied to the job separator when start key is pressed.
727	After cluster-A signal turned ON, BUSY-signal stayed "L" more than 7 seconds (power to job separator was turned OFF while the tape is being ejected).

Error Type	B23 [Job separator: No tape]
Description	B23-xxx No Paper Tape in Job Separator Replace Tape Roll
To reset display	Press Reset Key and set paper tape in Job Separator.
Error Point	Error Conditions
722	With the "Tape separation" function set ON, no tape detected in the job separator when the start key is pressed.
723	No tape remains in job separator upon completion of the tape-ejection operation.

Error Type	B24 [Job separator: Tape jam]
Description	B24-xxx Paper Tape Jam in Job Separator Remove Paper Tape
To reset display	Press Reset Key and remove the jammed tape.
Error Point	Error Conditions
724	Tape jam detected when the start key is pressed with the "Tape separation" function set to ON.
725	The tape-jam detection signal is "H" for more than 1.2 seconds after cluster-A signal turns ON (tape misfeed).
726	Job separator tape-jam detection signal is "L" when the BUSY signal changes from "L" to "H" (or after 7 sec. at "L") after the cluster-A signal goes ON (tape misfeed).

Error Type	B31 [Network cable not connected]
Description	B31-xxx !! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer
To reset display	Press Reset Key and connect the network cable.
Error Point	Error Conditions
916	Network cable is not connected when the machine is powered ON.

Error Type	B32 [NIC - Communication error]
Description	B32-xxx !! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer
To reset display	Press Reset Key, and check the network cable and linked printer.
Error Point	Error Conditions
914	MIB (Management Information Base) request error
915	MIB no reply
917	Communication error on the network.
920	Error detected by Network Interface Card (NIC) - NAK (negative acknowledgement was received).

Error Type	B33 [IP address set up error]
Description	B33-xxx No IP Address Assigned to This Printer Contact Your Network Administrator
To reset display	Press Reset Key, and enter the IP address..
Error Point	Error Conditions
931	DHCP is ON, but DHCP server is not found.

Error Type	B34 [Linked Printer: No Toner]
Description	B34-xxx No Toner in Linked Printer
To reset display	Press Reset Key, and check the toner amount in linked printer.
Error Point	Error Conditions
919	No toner in the linked printer.

Error Type	B35 [Linked Printer: Service Error]
Description	B35-xxx Linked Printer in Error
To reset display	Press Reset Key, and correct the error on the linked printer.
Error Point	Error Conditions
970	Error in the linked printer.

Errors involving consumables

Error Type	C01 [Replace ink cartridge]
Description	C01-xxx No Ink Replace Ink Cartridge
To reset display	Remove the empty ink cartridge and replace with a new one.
Error Point	Error Conditions
512	The ink sensor did not go ON even when inking was performed for a preset duration.
563	Ink remaining amount is zero from the information on the RF-Tag.
574	Inkless error was detected 5 times consecutively on one same ink cartridge.

Error Type	C02 [Replace master roll]
Description	C02-xxx No Master Replace Master Roll
To reset display	Remove the empty master roll and replace with a new one.
Error Point	Error Conditions
200	The master end was detected twice in succession at 10-milliseconds intervals during master transport.
240	Master remaining amount is zero from the RF-Tag information.
253	Masterless error was detected twice consecutively on one same master-roll.

Error Type	C03 [Master disposal box full]
Description	C03-xxx Master Disposal Box is Full Empty Master Disposal Box
To reset display	Remove master disposal box from the machine, throw away the disposed master from the disposal box and return the disposal box in the machine after an interval of over 5 seconds.
Error Point	Error Conditions
308	Compression detection position was reached before the master-compression-motor encoder-sensor count reached the specified level, after the master compression motor turned ON in the compressing direction.

Error Type	C04 [No paper on the paper feed tray]
Description	C04-xxx Add Paper
To reset display	Add paper on the paper feed tray.
Error Point	Error Conditions
402	Paper detection sensor is OFF (not detecting paper).

Set check errors

Error Type	D01 [Print drum not set]
Description	D01-xxx Set Print Cylinder (Drum) in Place
To reset display	Set the print drum in the machine.
Error Point	Error Conditions
526	Print drum is not set in the machine (drum connection signal, drum safety switch, and drum-lock sensor is OFF.
527	Print drum connection signal is OFF when the print drum was inserted in the machine.
528	Print drum safety switch is OFF when the print drum was inserted in the machine.
529	Print drum lock sensor is OFF when the print drum was inserted in the machine (time-out: 5 seconds).
530	Print drum connection signal does not go OFF within 5 seconds after the print drum safety switch went OFF when the print drum was pulled out.

Error Type	D02 [Incorrect print drum]
Description	D02-xxx Wrong-Type Print Cylinder Installed Replace with Correct Type
To reset display	Set correct print drum in the machine.
Error Point	Error Conditions
532	Incorrect print drum is used.

Error Type	D03 [Ink cartridge not set]
Description	D03-xxx Install Ink Cartridge
To reset display	Install ink cartridge in the print drum.
Error Point	Error Conditions
533	Bottle set switch is OFF.

Error Type	D04 [Incorrect ink cartridge]
Description	D04-xxx Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso office
To reset display	Replace with correct ink cartridge.
Error Point	Error Conditions
534	Incorrect ink cartridge is used.
560	Ink RF-Tag is not detected on ink bottle.
561	Ink RF-Tag communication error (communication with the ink cartridge was interfered by noise).
562	Wrong ink cartridge information on the Ink RF-Tag.
564	Detected a mismatch in the Ink RF-Tag.
575	RF-Tag software error.

Error Type	D05 [Master not set]
Description	D05-xxx Set Master in Place
To reset display	Insert leading edge of the master material into the master entrance and close the master making unit.
Error Point	Error Conditions
210	Master detection sensor is OFF (not detecting master material).

Error Type	D07 [Master disposal box not set]
Description	D07-xxx Set Master Disposal Box in Place
To reset display	Set master disposal box in the machine.
Error Point	Error Conditions
310	Master disposal box safety switch is OFF. (Does not detect the error during low-power mode in which 24V power is down)

Error Type	D08 [Master making unit not set]
Description	D08-xxx Set Master Making Unit in Place
To reset display	Insert the master making unit in the machine.
Error Point	Error Conditions
224	Master making unit is not set (both the safety switch and lock sensor are OFF).
226	Master making unit safety switch is still OFF when the master making unit is set in position.
227	Master making unit lock sensor is still OFF when the master making unit is set in position (timeout: 5 seconds).
228	Master making unit lock sensor is still ON even after the master making unit safety switch went OFF, when the master making unit was pulled out of the machine.

Error Type	D09 [Master making unit cover is not closed]
Description	D09-xxx Close Master Making Unit Cover
To reset display	Close the master making unit cover.
Error Point	Error Conditions
212	Master making unit cover set sensor is OFF.

Error Type	D11 [Front cover not closed]
Description	D11-xxx Close Front Cover
To reset display	Close the front cover of the machine.
Error Point	Error Conditions
535	Front cover set sensor is OFF.

Error Type	D13 [Rear cover not closed]
Description	D13-xxx Rear Cover of Main Body is Off Call Service
To reset display	Close the rear cover of the machine to activate the rear cover (serviceman safety) switch. [Field serviceman has to close and screw-on the rear cover]
Error Point	Error Conditions
009	The rear cover is opened (serviceman safety switch is OFF).

Error Type	D17 [Incorrect master roll]
Description	D17-xxx Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso office
To reset display	Set correct master roll in the machine.
Error Point	Error Conditions
236	Incorrect master roll.
237	Master roll RF-Tag not detected.
238	Master roll RF-Tag communication error. (Communication interrupted by noise)
239	Incorrect information on the Master roll RF-Tag.
241	Mismatch in the Master roll RF-Tag information.
256	Master roll RF-Tag software error.

Error Type	D18 [Print cylinder (drum) is ready for removal]
Description	D18-xxx Print Cylinder (Drum) has been Unlocked
To reset display	Pull out the print Cylinder (Drum).
Error Point	Error Conditions
522	Print Cylinder (Drum) is unlocked for its removal. (Drum lock Solenoid is ON).

Error Type	D19 [Master making unit is ready for removal]
Description	D19-xxx Master Making Unit has been Unlocked
To reset display	Pull out the master making unit.
Error Point	Error Conditions
223	Master making unit is unlocked for its removal. (Lock Solenoid is ON).

Error Type	D22 [Print cylinder (drum) removal command]
Description	D22-xxx Print Cylinder (Drum) Not Set in Place. Press Cylinder (Drum) Release Button and Pull Out Print Cylinder (Drum) after the Button Lights.
To reset display	Pull out print cylinder (drum) from the machine.
Error Point	Error Conditions
540	Cannot access to the EEPROM on the print drum PCB.
542	Print drum PCB EEPROM data error.

Warnings (requiring service calls)

Error Type	E01 [Replace battery]
Description	E01-xxx !!Low Battery!! Call Service
To reset display	Press Reset Key, and replace the battery.
Error Point	Error Conditions
010	Battery voltage was less than 2.1 V when the power was switched ON (weak battery: time to replace battery).

Error Type	E02 [Maintenance call]
Description	E02-xxx !!Maintenance!! Call Service
To reset display	Press Reset Key, and also reset the maintenance call value setting by test mode.
Error Point	Error Conditions
011	Master counter reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]
012	Copy counter reached the value set for the maintenance call (value by set test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]
022	Maintenance counter inside the print drum reached the value set for the maintenance call (value set by test mode). [The message appears when either the power is turned ON, the unit is reset, or when the machine operation ended.]

Warnings (Miscellaneous)

Error Type	F01 [No master on print cylinder (drum)]
Description	F01-xxx No Master on Print Cylinder (Drum) Make a New Master
To reset display	Make a new master with an original.
Error Point	Error Conditions
015	There is no master on the print drum at the start of printing.

Error Type	F02 [Master image larger than paper size: 1]
Description	F02-xxx Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !!
To reset display	Press "OK" or "Cancel" button. Also check the paper size.
Error Point	Error Conditions
018	Paper size does not match with the image size on the print drum at the start of printing. The paper size is smaller than the image size on the master.

Error Type	F03 [Multi-up printing - Incorrect paper size]
Description	F03-xxx !! Multi-Up is Not Available with This Paper Size !! Replace with Proper Paper of Standard Size
To reset display	Press reset key and place correct size papers on the paper feed tray.
Error Point	Error Conditions
016	Tried to make multi-up printing with incorrect paper size.

Error Type	F05 [Print quantity under "Minimum Print Quantity"]
Description	F05-xxx Enter Print Quantity Over The Programmed Minimum Value
To reset display	Enter print quantity value over the programmed minimum value.
Error Point	Error Conditions
019	In master making, the print quantity selected is less than the minimum print quantity.

Error Type	F10 [Master image larger than paper size: 2]
Description	F10-xxx Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !! (Continue->PROOF Key)
To reset display	Press Cancel key to cancel, or press Proof key to continue.
Error Point	Error Conditions
021	Paper size does not match with the size of image on the print drum when test print is selected and activated.

Error Type	F17 [Print cylinder (drum) size does not match]
Description	F10-xxx [The message to appear when print cylinder (drum) is inserted.] !!The Print Cylinder Type has been Changed!! Select the Current Print Cylinder Type [The message to appear when print cylinder (drum) type is selected.] Invalid Print Cylinder has been Selected Change Cylinder, or Reselect Cylinder Size
To reset display	Select the same drum as specified, or install the same drum installed previously.
Error Point	Error Conditions
027	Different size print cylinder (drum) from the previous is set.

Error Type	F37 [AF cannot be used in book mode]
Description	F37-xxx !! Book Shadow Editor is Not Available with ADF !! Place Original on Stage Glass
To reset display	Place original on the stage glass.
Error Point	Error Conditions
050	Original was set on the AF with book mode selected in master making.

Error Type	F43 [Data printing / Paper size mismatch]
Description	F43-xxx !! Unmatched Size -- Current Page and Printing Paper !! Check Paper Size
To reset display	Check paper size, press Cancel or Continue key.
Error Point	Error Conditions
902	Original size is larger than the paper size.

Error Type	F45 [Original undetected]
Description	F45-xxx Original Undetected Reset Original
To reset display	Reset the original in place.
Error Point	Error Conditions
954	Auto-tray or Auto-reproduction size is selected, and master making or print to linked printer is started with original undetected
959	Master making or print to a linked printer is started with original undetected.

Error Type	F47 [AF - card size reproduction not available]
Description	F47-xxx [A4->Card] Reproduction is Not Available in combination with AF Place Original on Stage Glass
To reset display	Remove original from AF and set it on the stage glass.
Error Point	Error Conditions
904	Reproduction size from A4 size reduced to card size is selected and the original is placed on the AF unit.

Error Type	F52 [Printing from Linked Printer disabled - Printer data not received]
Description	F52-xxx Acquiring Linked Printer Configuration Data Please Wait a Moment
To reset display	Press the "Close" button.
Error Point	Error Conditions
912	Printing from linked printer disabled (Linked printer data not received).

Error Type	F58 [Printing from Linked Printer Disabled - Initializing NET-C]
Description	F58-xxx Starting Up RISORINC-NET Please Wait a Moment
To reset display	Press the "Close" button.
Error Point	Error Conditions
927	Printing from Linked Printer disabled (NET-C being initialized).

Error Type	F60 [Printer-Auto-Selection disabled: Print quantity selected is 0]
Description	F60-xxx !! Number of Copies is set to "0"!! Printing Operation will Start on this Printer
To reset display	Press either "OK" or "Cancel" button.
Error Point	Error Conditions
929	Auto-printer-selection is disabled with print quantity selected as Zero.

Error Type	F62 [Printer-Auto-Selection disabled: Linked printer error]
Description	F62-xxx !!Auto-Link Operation is Not Available!! Specified Linked Printer may be in Error or Turned OFF
To reset display	Press "Cancel" button.
Error Point	Error Conditions
956	Auto-printer-selection is disabled due to linked printer error.

Error Type	F66 [Linked printer saddle stitching is disabled]
Description	F66-xxx Saddle Stitching is Not Available with This Paper Size
To reset display	Press "Close" button.
Error Point	Error Conditions
962	Specified tray does not have any A3 (Ledger), B4 (Legal), A4 (Letter) or A4L (Letter-L) when printing from linked printer with saddle stitching selected.

Error Type	F67 [Linked printer saddle stitching is disabled]
Description	F67-xxx !! Improper Paper for Rotation Sorting !! Set Same Sized Paper in 2 Trays, One in Horizontal and Other in Vertical Direction
To reset display	Press "Close" button.
Error Point	Error Conditions
963	Specified size papers are not set in horizontal and vertical directions in the linked printer tray, when printing from linked printer with rotation sorting selected.

Error Type	F90 [Ink supply stock inventory]
Description	F90-xxx Check Stock of Required Ink and Please Order If Needed
To reset display	Press "Close" button.
Error Point	Error Conditions
957	Set quantity of the specified color ink stock quantity is equal to or less than the calculated stock quantity.

Error Type	F91 [Master roll supply stock inventory]
Description	F91-xxx Check Stock of Required Master and Please Order If Needed
To reset display	Press "Close" button.
Error Point	Error Conditions
958	Set quantity of the specified master roll stock quantity is equal to or less than the calculated stock quantity.

Parameter value input

Message	H1 [Ink color setting]
Description	H1 Select the same color as the Print Cylinder (Drum) currently in use.
To reset display	Enter the required parameter value. (1: black 2: color)

Message	H2 [Print density fine adjustment]
Description	H2 Select a Print Density level to match the ink to fine-tune print result.
To reset display	Enter the required parameter value. (1: light to 5: dark)

Message	H3 [First print density adjustment]
Description	H3 Select a Print Density level of the first print (proof-read copy) to match the ink.
To reset display	Enter the required parameter value. (1: light to 5: dark)

Message	H4 [Master Density]
Description	H4 Select the standard density to be applied during master-making.
To reset display	Enter the required parameter value. (1: light to 10: dark)

Message	H5 [Print density fine adjustment]
Description	H5 Select a Print Density level to match the master to fine-tune print result.
To reset display	Enter the required parameter value. (1: light to 5: dark)

Message	H6 [First print density adjustment]
Description	H6 Select a Print Density level of the first print (proof-read copy) to match the master.
To reset display	Enter the required parameter value. (1: light to 5: dark)

Paper/Original errors (J-codes)

Error Type	J** [Paper/Original jam error]
Description	J** Paper Jam Remove Paper in Indicated Areas and Press [OK] Button
To reset display	Remove jammed paper or original and press Reset key.

In the case where more than one **A-code** errors (listed bellow) occur, the two-digit error-type number which follows after the **J** is the sum of the Corresponding Values for each of those **A-code** errors.

Error Type	Error Description	Bit	Corresponding Value
A10	AF original feed error	0	1
A09	Paper ejection error	1	2
A08	Paper jam on print drum	2	4
A07	Paper feed error	3	8

Example: If A10 and A08 jam errors occur at the same time, the panel message will show error **J05**.

4. Errors Requiring Special Attention

The errors listed below are not cleared even when the machine power is switched OFF and ON.

The problem must be corrected in order to clear the error message.

Error Type	Error Description
T01	Main motor lock
T03	Clamp motor lock
T13	Cutter motor lock
A02	Master loading error
A04	Master removal error
A08	Paper jam on print drum
A16	Waiting for the master to be removed from the drum
A17	Cutter error
C01	Replace ink cartridge
C02	Replace master roll
C03	Master disposal box full

MEMO

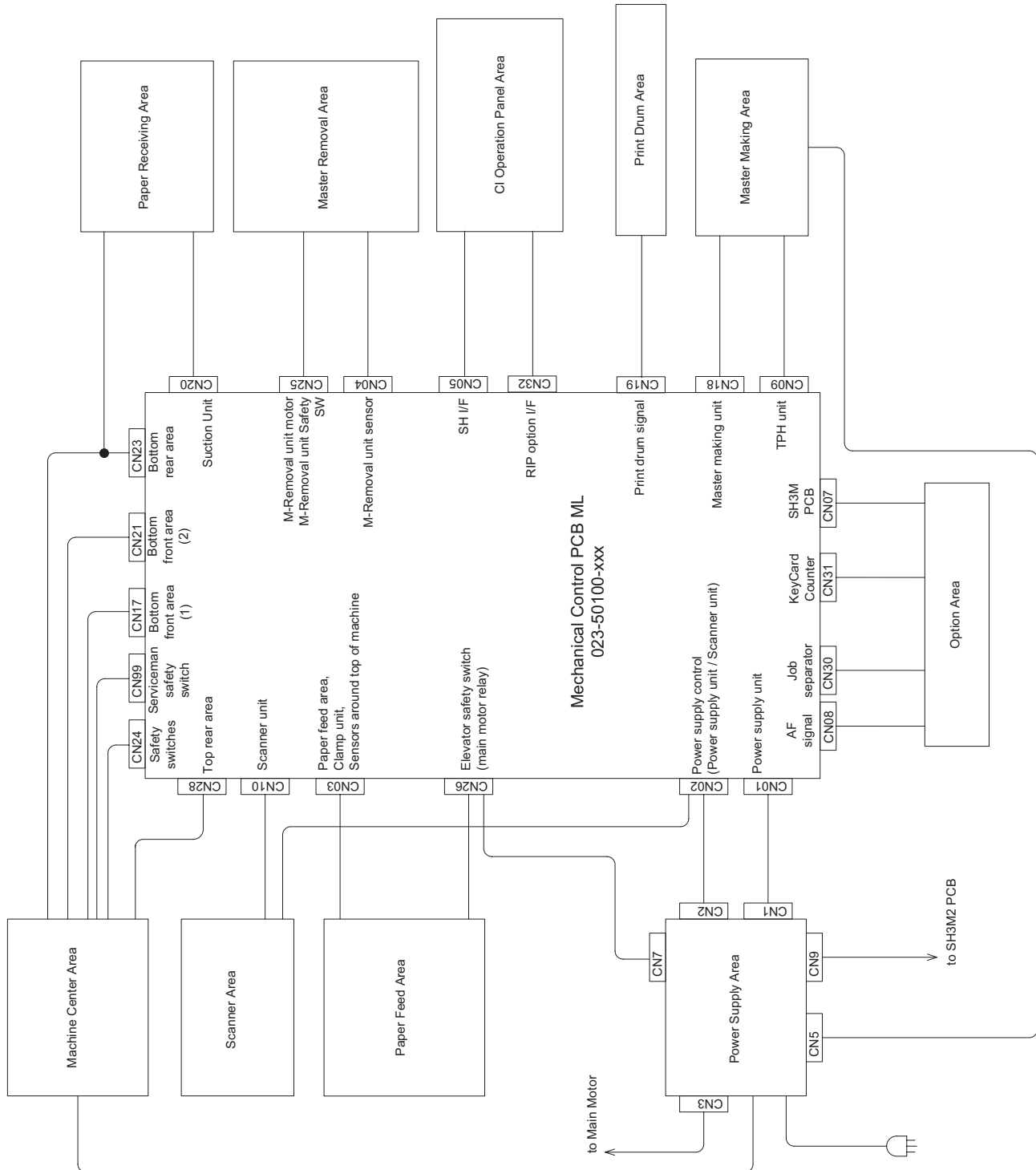
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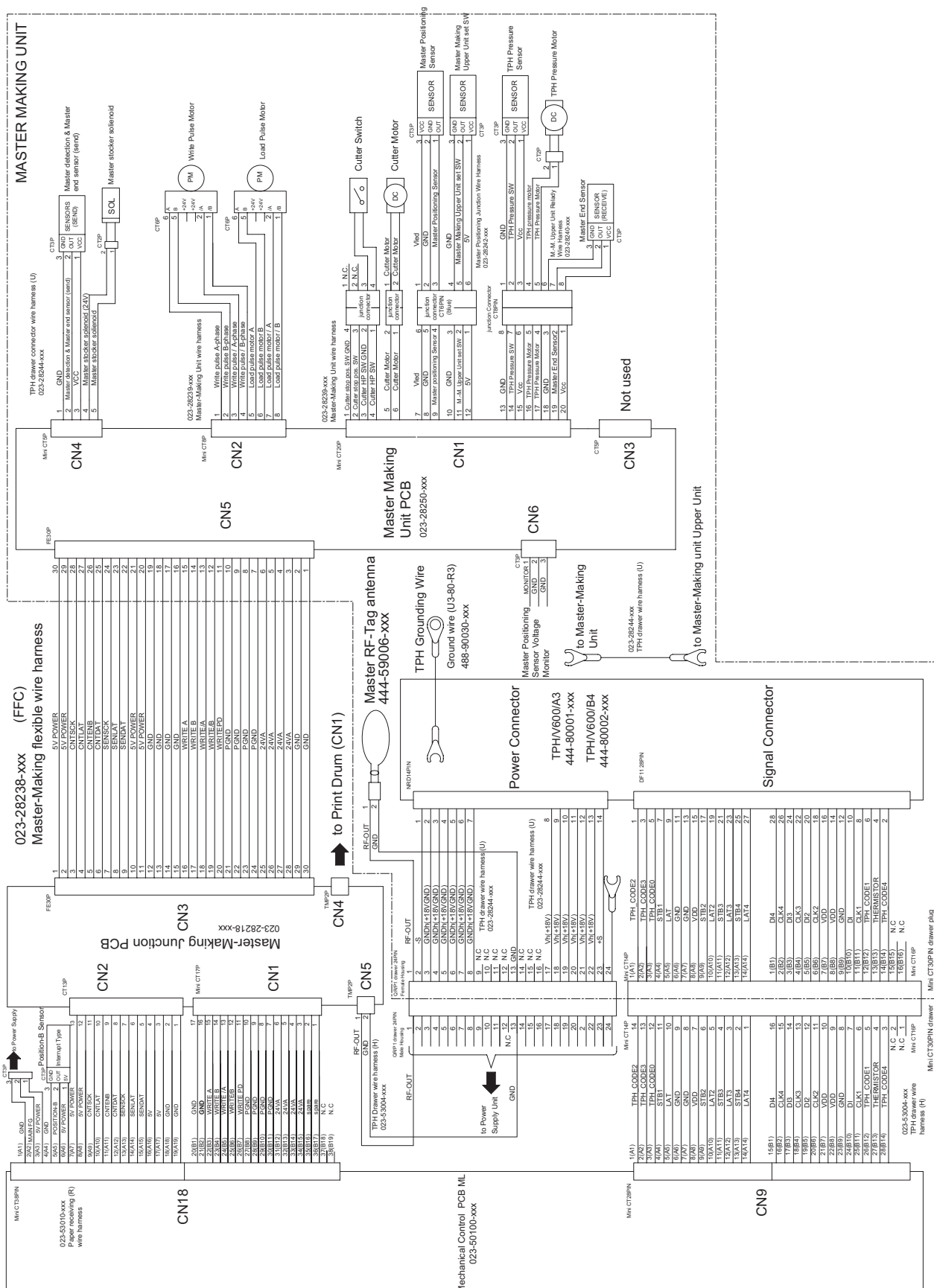
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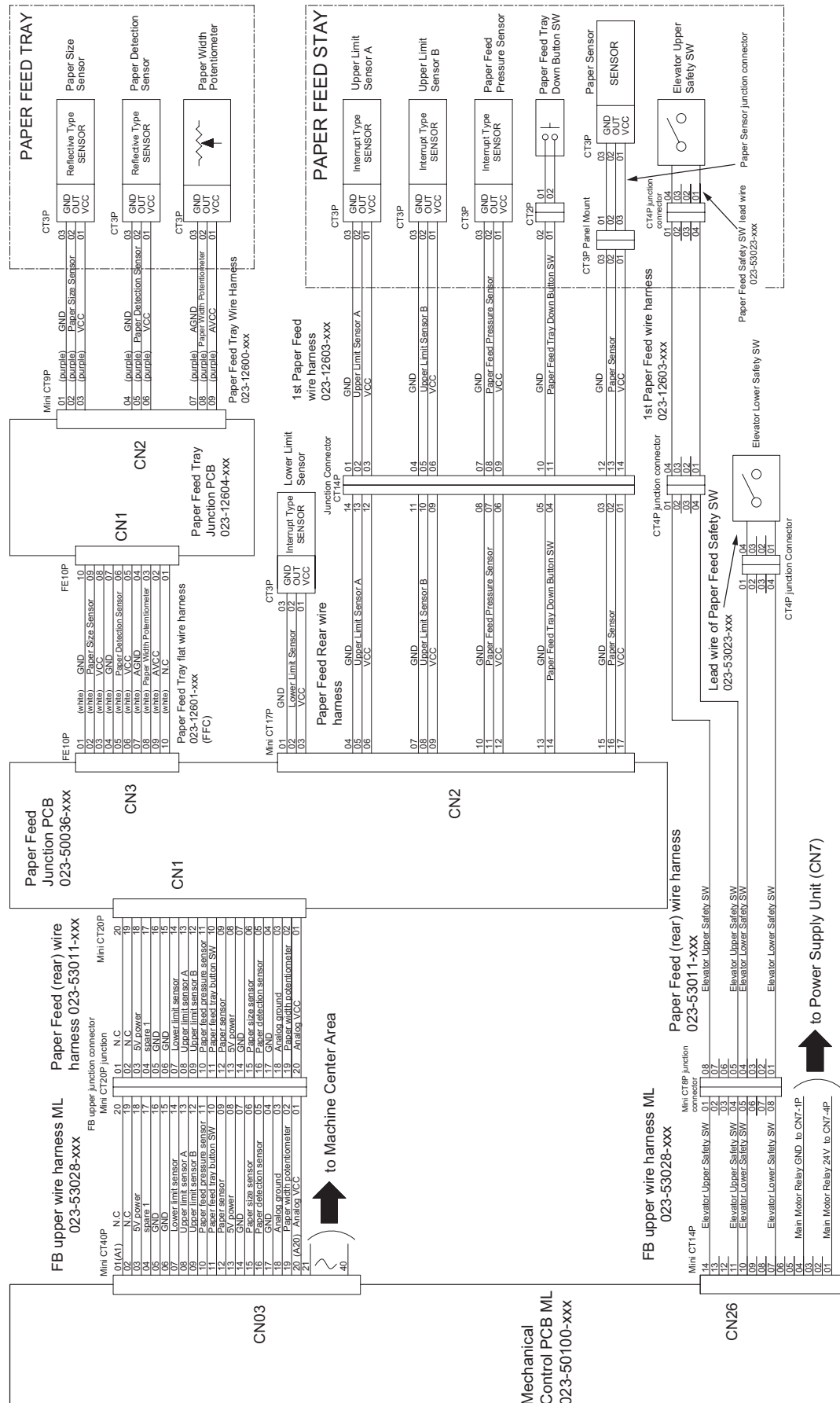
1. Connection between PCBs



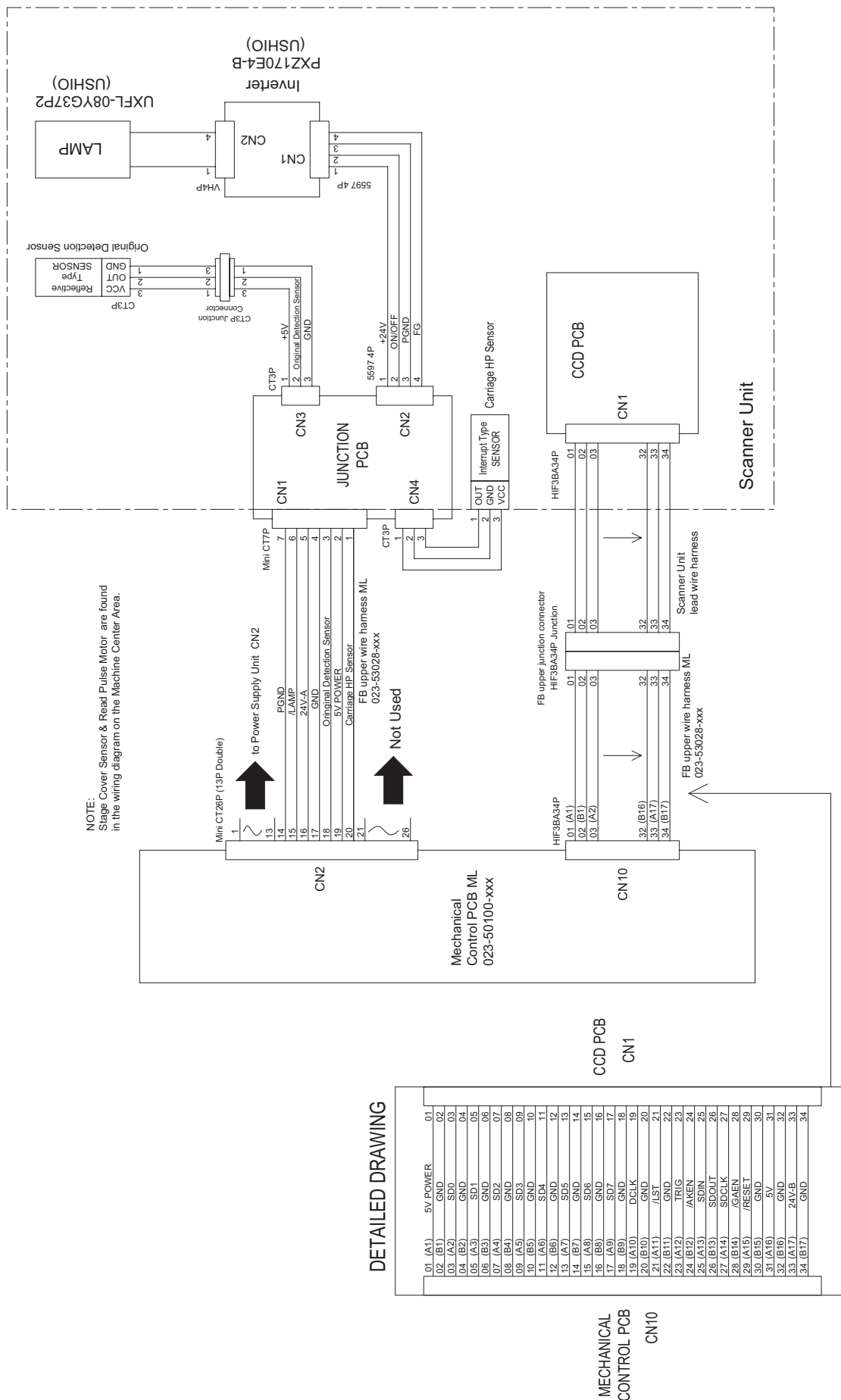
3. Master making area



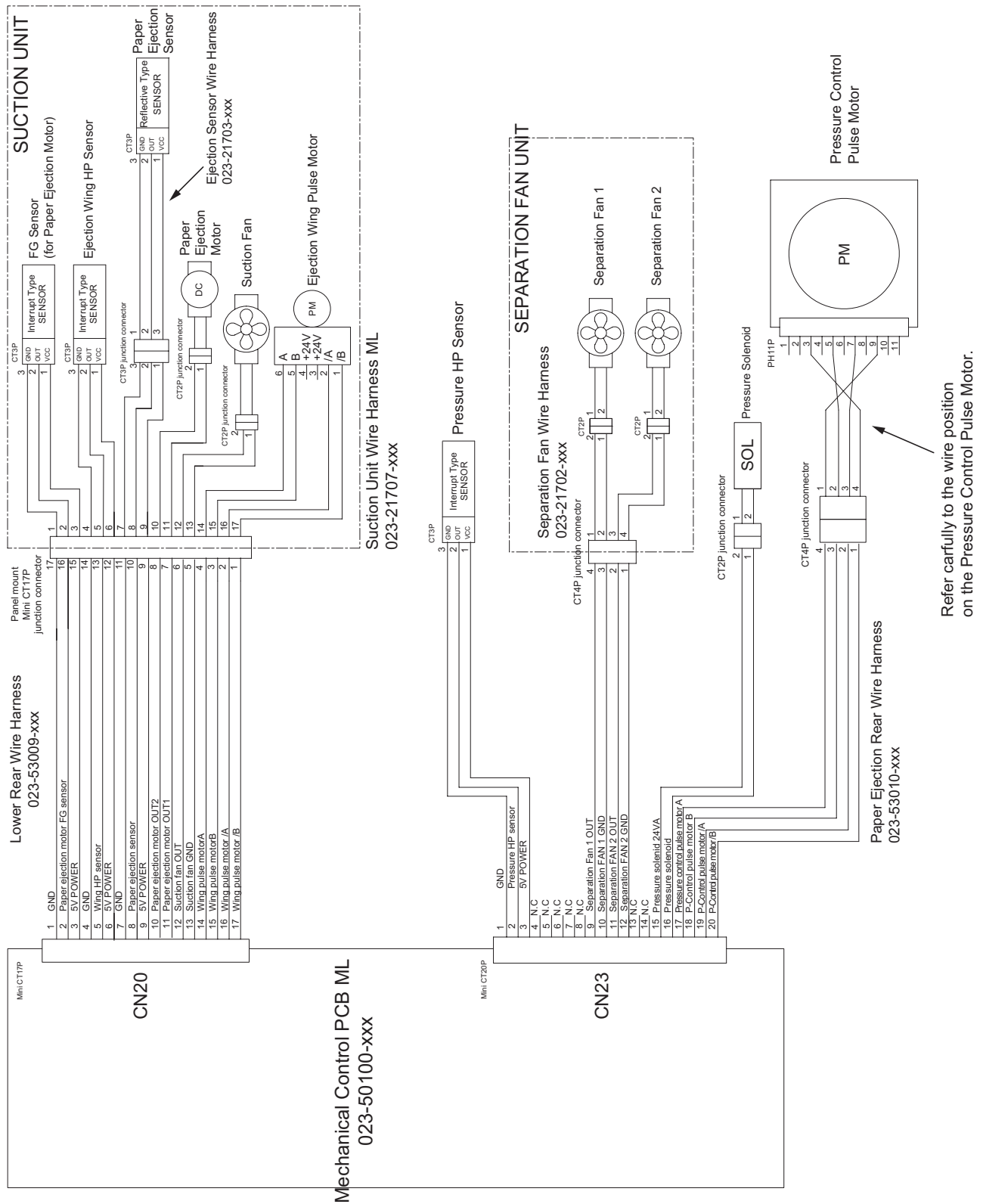
4. Paper feed area



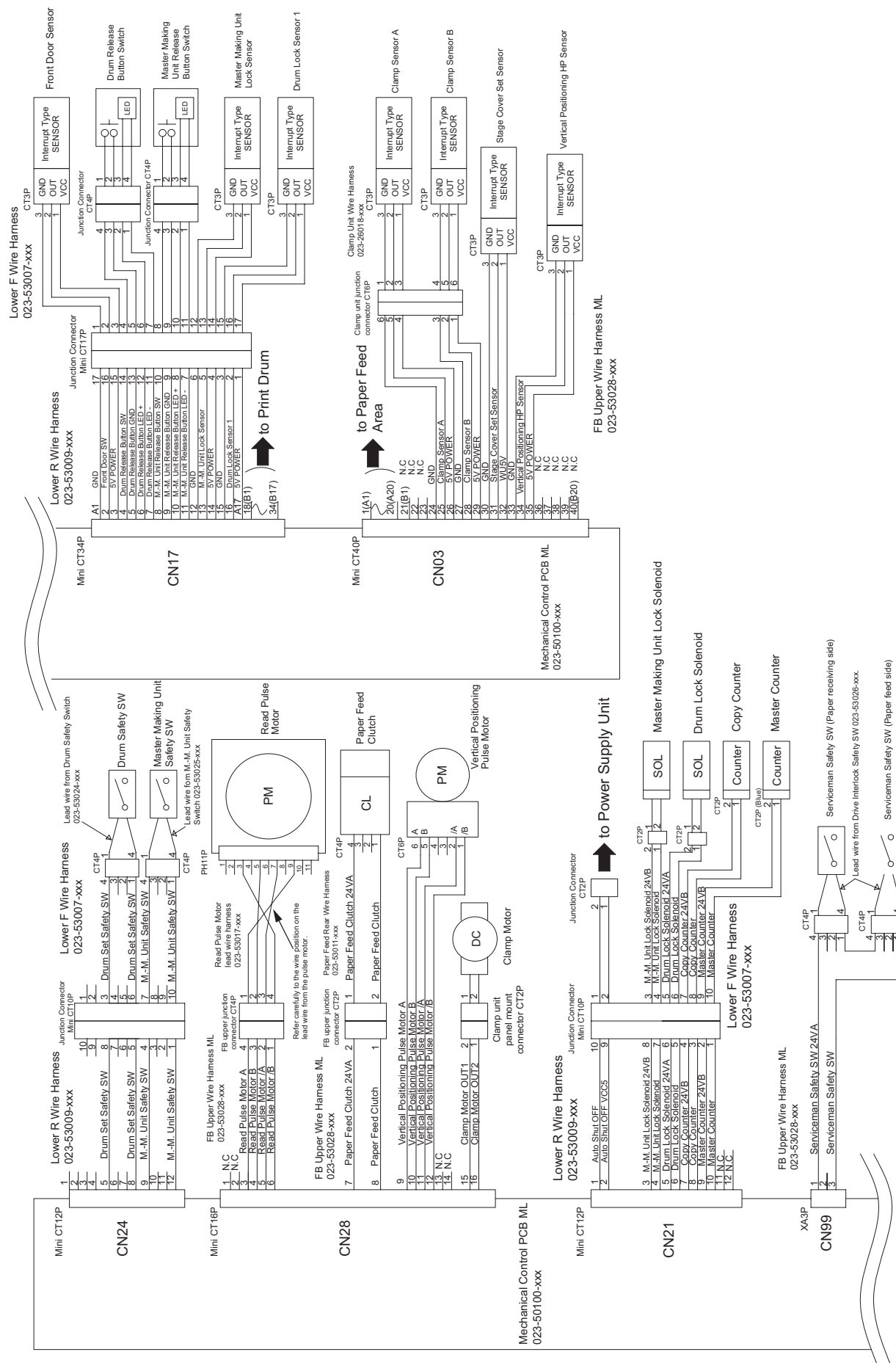
5. Scanning area



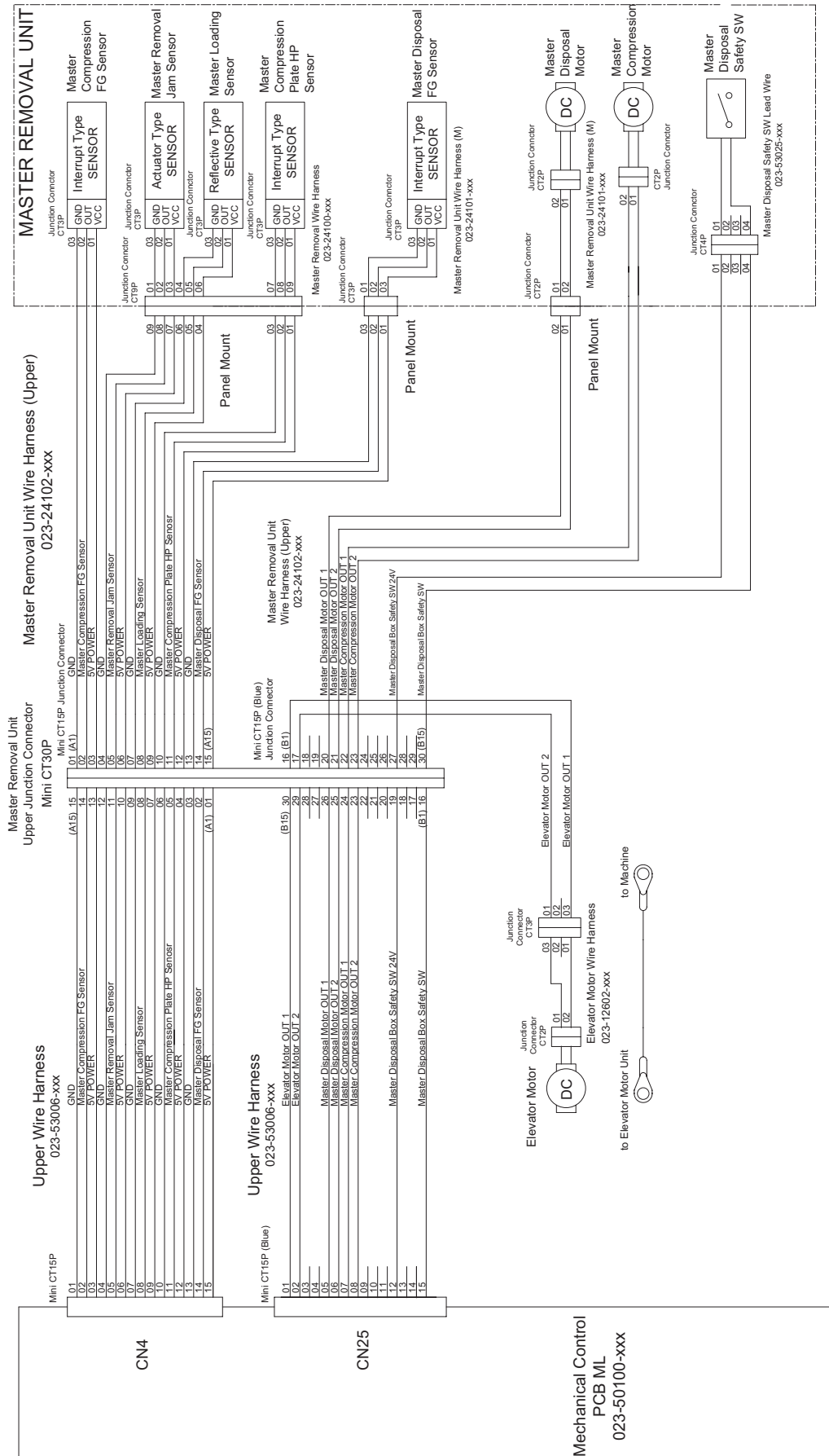
6. Paper receiving area



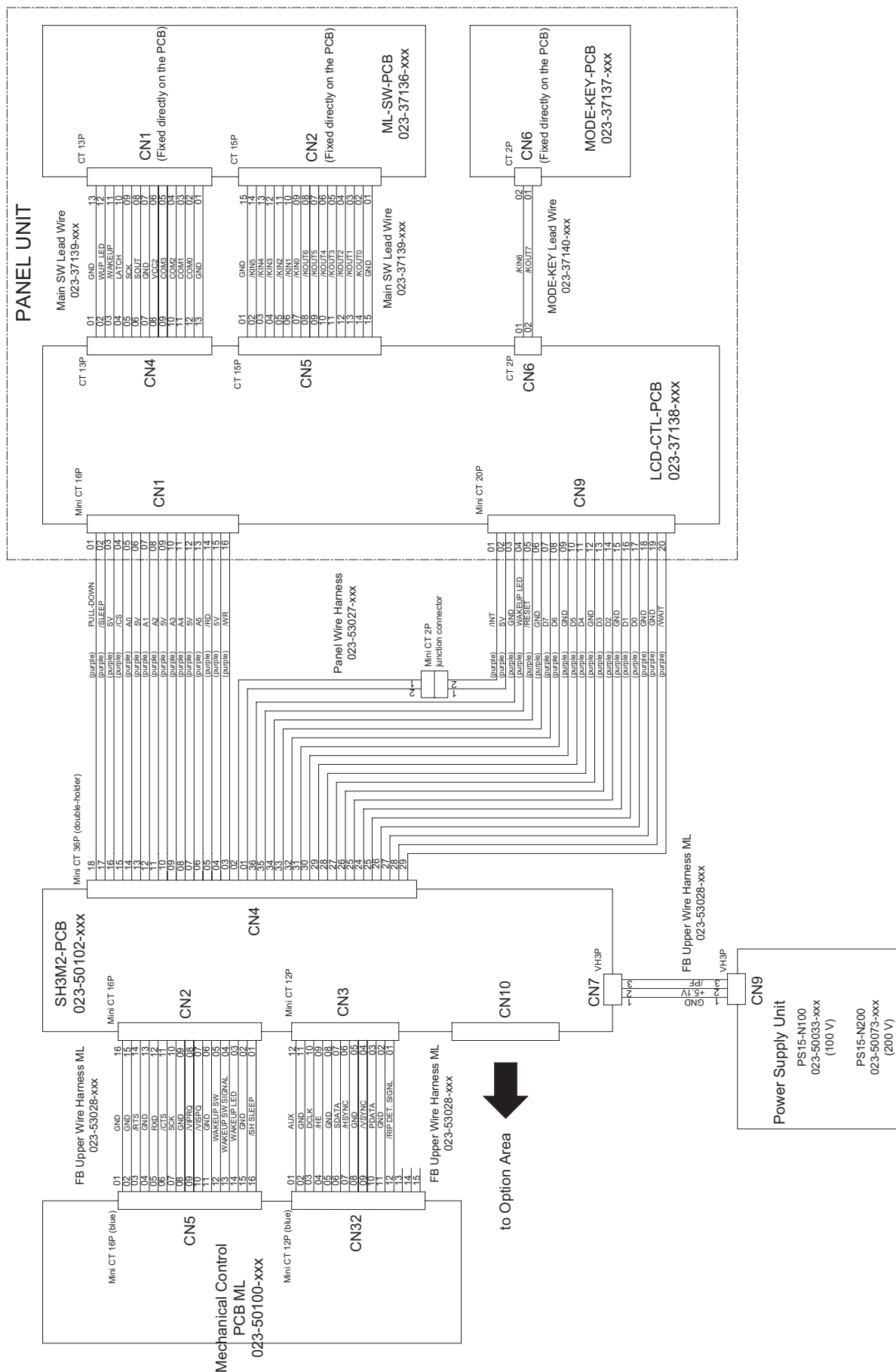
7. Main components area



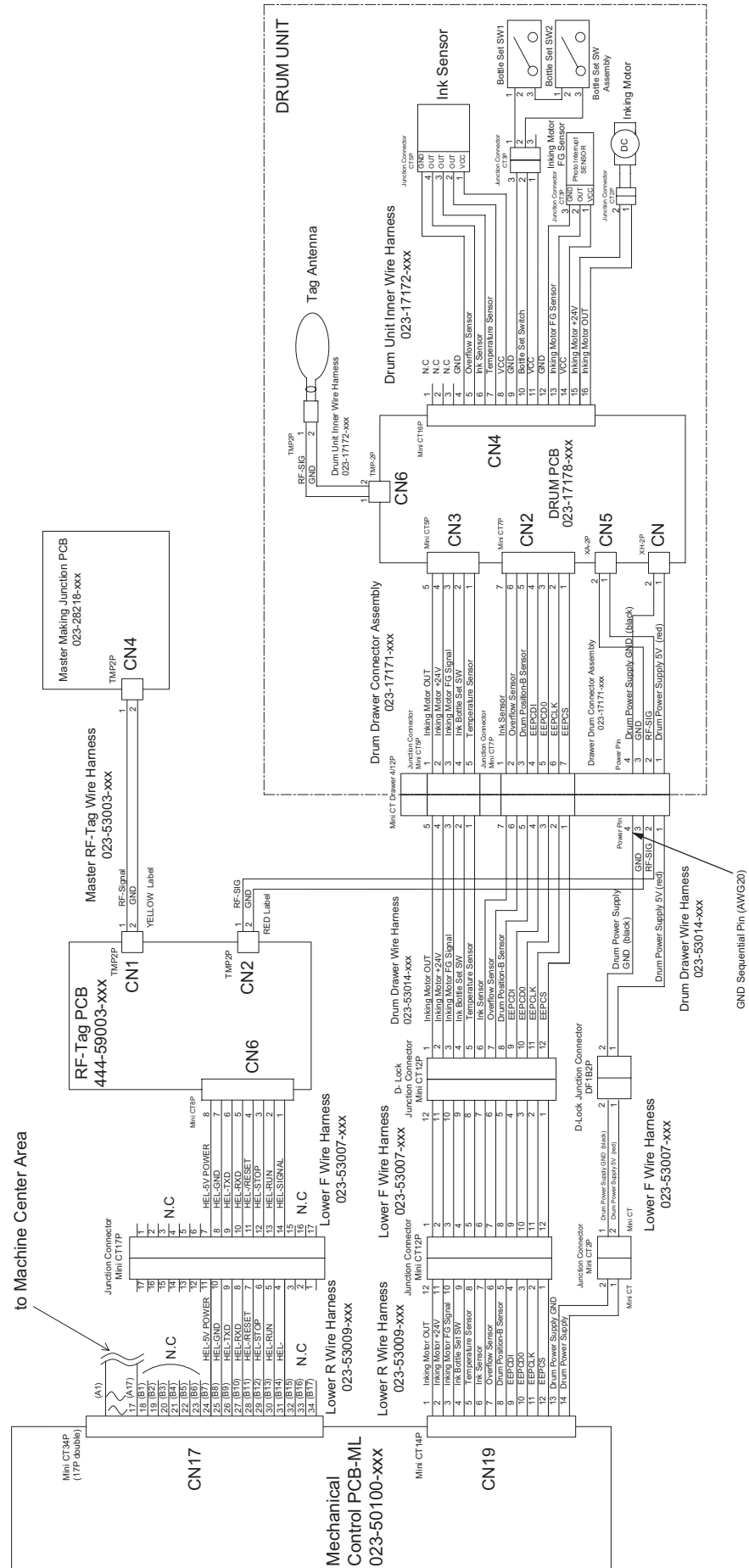
8. Master removal area



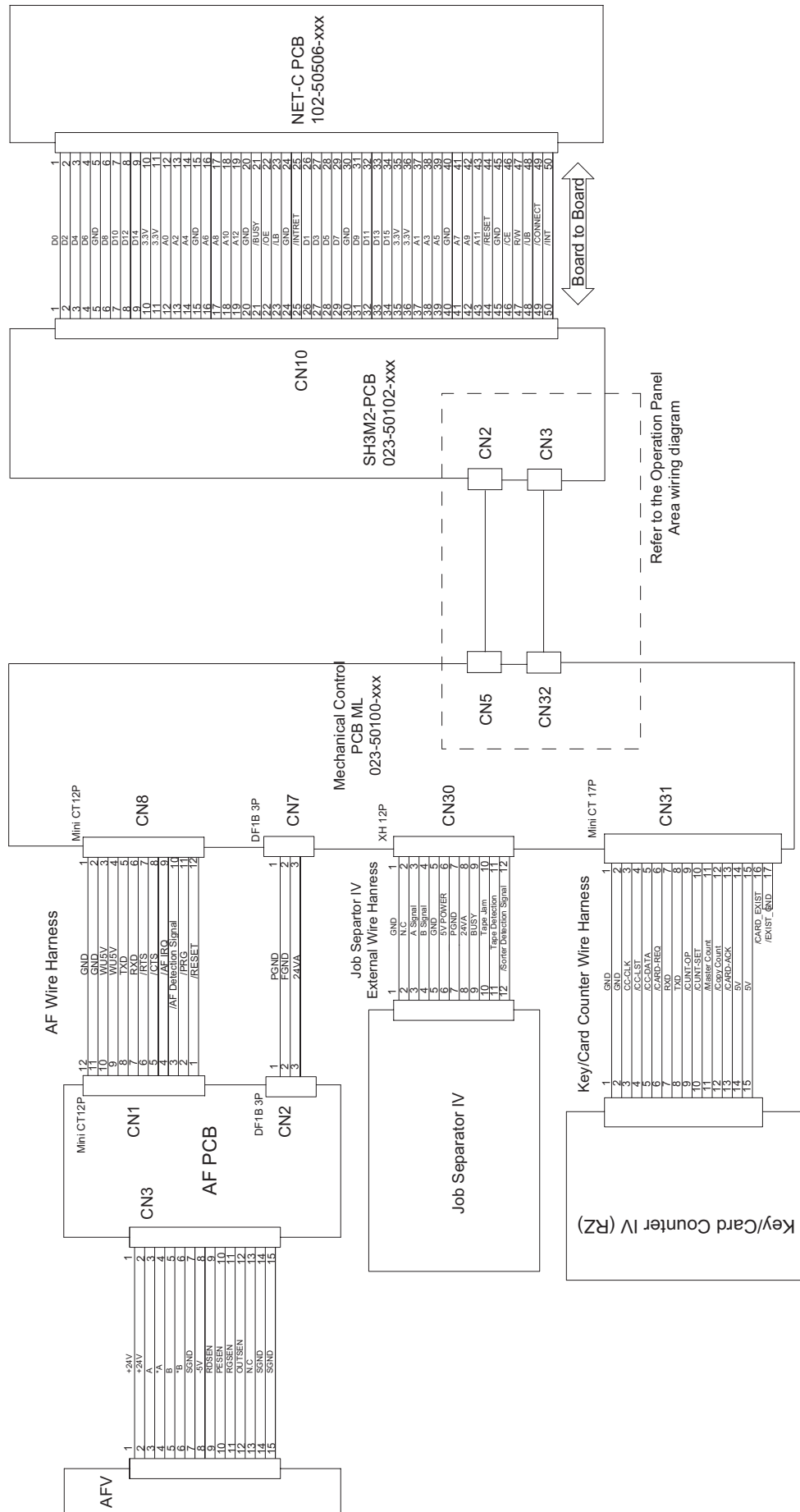
9. Operation panel area



10. Print drum area



11. Optional components



12. Fuses

Fuse No.	Circuit	Faulty Fuse	Related Components
F001 (100V machine) 125V 10A (200V machine) 250V 6.3A	Main primary	Power not provided	Power to the main unit
F101 250V 3.15A	24V-A	T98-947 24V-A is not provided	Elevator motor Thermal pressure motor Cutter motor Read pulse motor Print registration pulse motor Load pulse motor Write pulse motor Suction fan Master stocker solenoid Pressure solenoid Print drum lock solenoid Paper feed clutch
F102 25V 6.3A	24V-B	T98-948 24V-B is not provided	Master compression motor Clamp motor Paper ejection motor Paper ejection wing pulse motor Master removal motor Inking motor Pressure control pulse motor Separation fan Master-making unit lock solenoid Copy counter Master counter
F103 250V 3.15A	24V-OP (option)		-----

MEMO

CHAPTER 1: MAINTENANCE

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Preface

This manual provides Technical Service Information for the **RISO PRINTER model RZ5 series**.

This manual provides procedures for removing and installing major components. Following these procedures will minimize machine malfunctions. This information and format will also increase technical representatives' awareness and experience regarding repairs necessary to insure end-user satisfaction.

CAUTION

[Handling of Lithium Battery]

- **Never fail to follow the following instructions when you discard the used lithium battery.**

1. Never let the battery short-circuited.

If the (+) and (-) terminals contact each other or metal materials, the battery will be short-circuited. If the batteries are collected and stored in disorderly or one upon another, the above-mentioned case will occur.

- DANGER -

If the battery is short-circuited, it will heat up and may in some cases explode into fire.

2. Never heat up the battery.

- DANGER -

If you heat the battery up to more than 100 degrees Celsius or put it into the fire, it may burn dangerously or explode.

3. Never disassemble the battery or press it into deformation.

- DANGER -

If you disassemble the battery, the gas pouring out of the inside may hurt your throat or the negative lithium may heat up into fire.

If the battery is pressed into deformation, the liquid inside may leak out of the sealed part or the battery may be short-circuited inside and explode.

4. Never fail to keep the battery out of reach of children.

If you put the battery within reach of children, they may swallow it down. Should they swallow the battery, immediately consult the doctor.

[Replacement of the Lithium Battery]

- 1. The lithium battery must be replaced by a trained and authorized service technician.**
- 2. The battery must be replaced only with the same or equivalent type recommended by the manufacturer.**
- 3. Discard used batteries according to the manufacturer's instructions.**

!! WARNING !!

Important Safety Precautions

1. Always disconnect electrical supply before placing hands in the machine.

I. To avoid injuries:

Be sure to disconnect the electrical power before disassembling, assembling, or when making adjustments on the machine.

II. Protection of the machine:

Make sure to turn OFF the power to the machine before plugging or unplugging the electrical connectors, or when connecting a Meter.

2. WARNING:

The back light tube of LCD of the Control Panel on this Model contains mercury which must be recycled or disposed of as hazardous waste.

3. Always connect electrical connectors firmly.

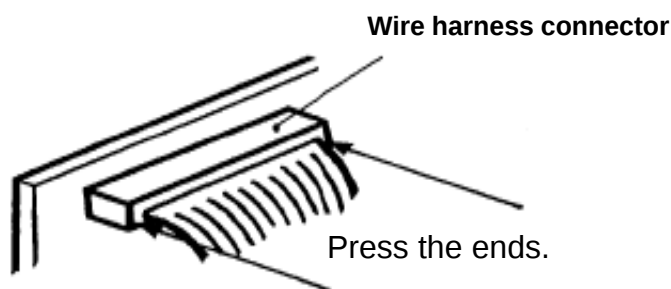
I. To avoid electrical failure:

The connectors must be connected firmly together and onto the PCBs.
Press on the ends of the connectors and then on the middle to ensure a firm fit.

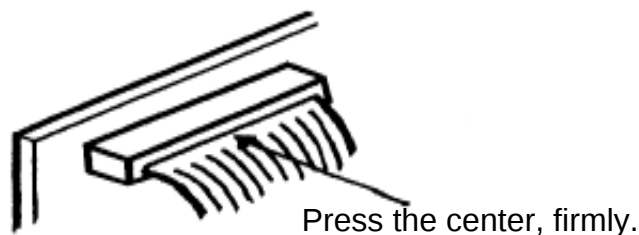
II. Protection of the electrical components:

The electrical components may be damaged due to short circuits caused by a loose connector.

FIRST



THEN



0116

1. Work Precautions

When conducting maintenance work, be careful to avoid injury caused by springs or the sharp edges of sheet metal.

Inspection

If you discover any defects or problems during an inspection, fix the problems or if necessary take steps such as replacing a part.

Removal

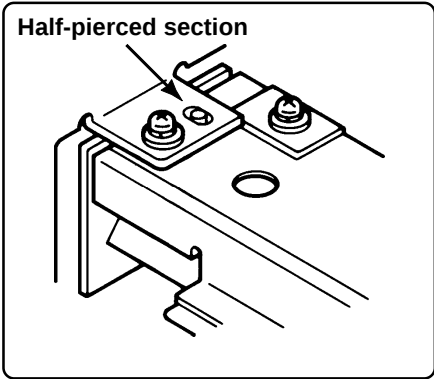
Check the problem area. At the same time, examine the cause of the problem and determine whether the part needs to be removed or disassembled. Next proceed according to the procedures presented in the Technical Manual. In cases where, for example, it is necessary to disassemble areas with large numbers of parts, parts which are similar to each other, or parts which are the same on the left and right, sort the parts so that you do not mix them up during reassembly.

- (1) Carefully sort the removed parts.
- (2) Distinguish between parts which are being replaced and those which will be reused.
- (3) When replacing screws, etc., be sure to use the specified sizes.

Assembly and Installation

Unless specified otherwise, perform the removal procedures in reverse during assembly and installation. In cases where protrusions or holes are provided to assist in positioning parts, use them for accurate positioning and securing.

(Protrusions and holes for positioning parts → Half pierced section)



0101

Tools

Using tools other than those specified can lead to injury or damage screws and parts. Have all the tools necessary for the work available.

[Standard Tool list]

Type	Tip size	Shaft length, etc.
Phillips screw driver	No. 2	(250 mm)
	No. 2	(100 mm–150 mm)
	No. 2	(stubby type)
	No. 1	(75 mm–100 mm)
Standard screw driver	6 mm	(100 mm–150 mm)
	3 mm	(100 mm–150 mm)
	1.8 mm	(precision type)
Nut driver (box driver)	8 mm	(100 mm–150 mm)
	7 mm	(100 mm–150 mm)
High frequency driver	2.5 mm	
Spanners	5 mm	5.5 mm 7 mm
	8 mm	10 mm 13 mm
		Monkey
Hex wrenches	5.0 mm	4.0 mm 3.0 mm
	2.5 mm	2.0 mm 1.5 mm
	(For 3.0mm, 2 pieces required)	

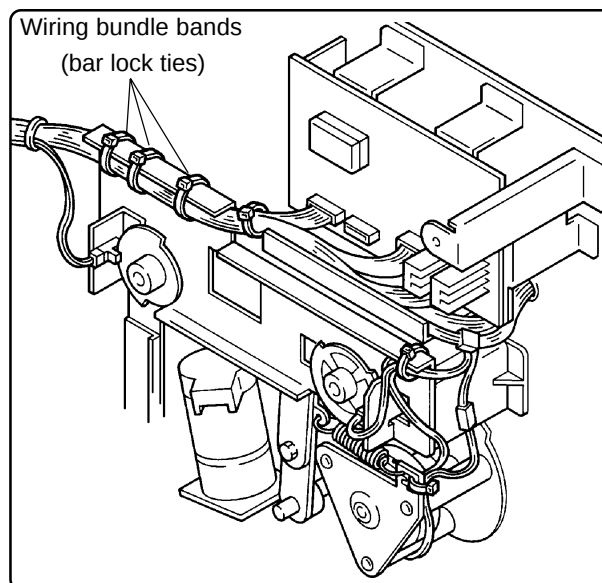
0102

Type	Remarks
Steel scale	150 mm
Feeler gauge	
Radial cutting pliers	
Pliers	
Nipper	
Small flashlight	
Multimeter	
Soldering iron	20 W–30 W
File	Flat, round

0103

Electrical system work

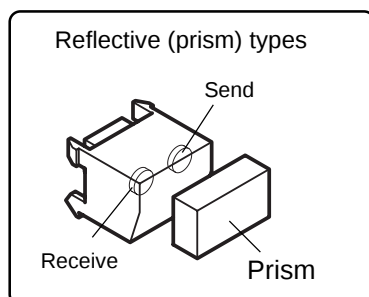
- ï After removing wire bundles, fasten them with wire bundle bands (bar lock ties) so that they will not sag.
- ï When installing parts, be careful to avoid pinching or damaging the wire bundles.
- ï If a fuse blows, always replace it with one with the specified capacity.
- ï Using a fuse with a larger capacity can not only damage parts, but may cause fires.
- ï Be careful not to drop image scanners, thermal print heads, and other sensors as they can be easily damaged.



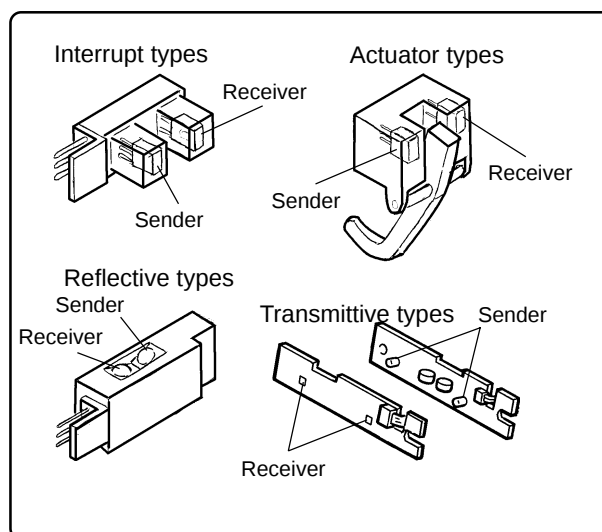
0104

Sensor types

- ï Photoelectric sensors may be broadly divided into the following four types: interrupt types (U-shaped), actuator types, reflective types, and transmittive types.
- ï Magnetic sensors use Hall ICs, which react to the magnetic force in magnets.
- ï Always turn off the power before plugging or unplugging sensor connectors.



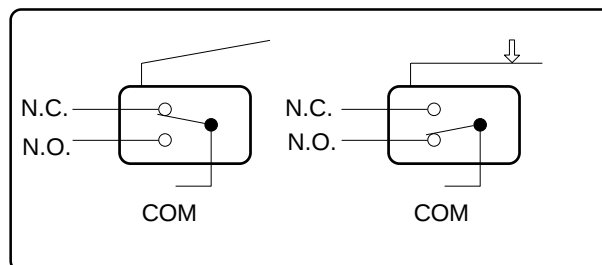
0105



0106

Switch types

- ï Microswitches may be divided between normally open (N.O.) types and normally closed (N.C.) types. With an N.O. connection, an internal contact is connected when the switch actuator is pressed. With an N.C. connection, an internal contact is disconnected when the switch actuator is pressed.



0107

Note

The machine is comprised of many gears. When inspecting or replacing parts, apply grease to the gears. If they are not properly greased, the gears may make abnormal sounds, and malfunctions or mechanical problems may occur.

Installation location

Do not install the machine in any of the following locations.

- (1) Those subject to direct sunlight or any bright location such as by a window (If you must install in such a location, put a curtain or the like over the window.).
- (2) Those where the temperature changes drastically.
- (3) Those that are too hot, cold, humid, or dry.

RECOMMENDED:

Temperature range: 15 degrees Celsius - 30 degrees Celsius

Humidity range: 40% - 70% No condensation allowed

- (4) Those with radiant heat sources and any locations in the direct path of air from air conditioners or heaters.
- (5) Any poorly ventilated location.
- (6) Dusty atmosphere.
- (7) Any tilted location.

(Installation height difference: 10 mm max. front - rear, 10 mm max. left - right).

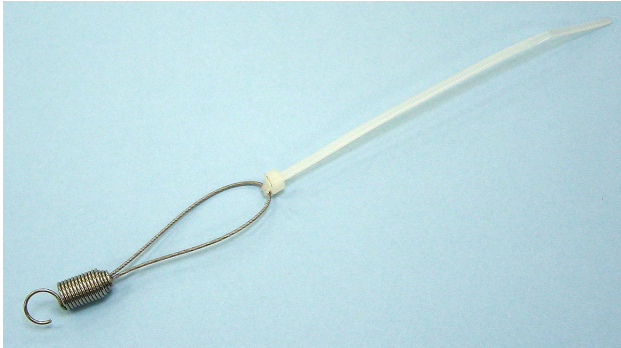
Electrical connection

- Plug the plug securely into the socket so that there is no problem with the contact in the power supply plug section.
- Do not use any triplets or extension cords.
- Do not allow any other machine to stand on or crush the power cord.

Ground connection

- Always ground this machine to prevent electrical shock in case of an electrical leakage.

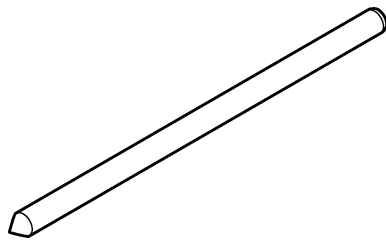
2. JIGs



0108

021-16007-005 Spring; Screen (2 pieces required)

Cut the ring end to make into hook, as shown on the photograph, and attach wire tie bar on the other end.



0109

016-16141-003 8mm Dia. x 160mm Shaft (JIG)

(2 pieces required)

Note:

The part numbers are subject to change without notice.

3. NOTICE Sheet

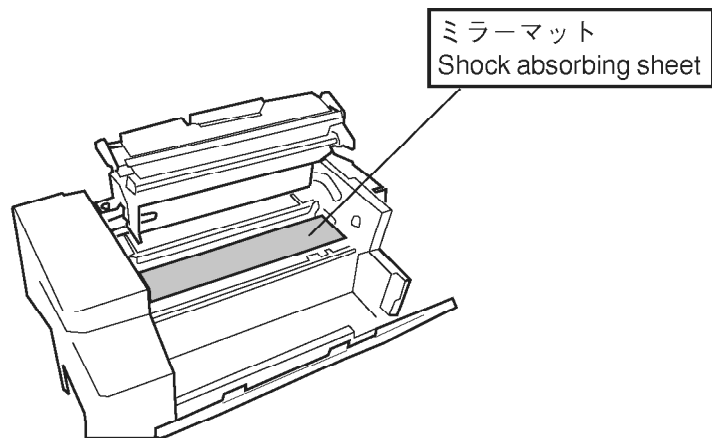
お願い／Notice

必ず下記の手順で設置準備を行ってください。

The following procedures are required when installing the printer.

1 製版ユニットを開け、ミラーマット（2枚）を取除く。

Open the Master loading unit and remove the Shock absorbing sheets.

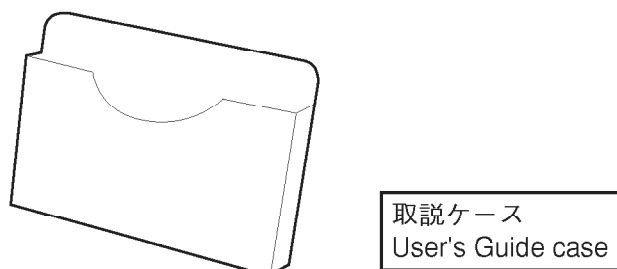


2 「取説ケース」を取り付ける。

どこに取り付けるか、お客様の意向を確認した上で、ケース裏面のテープで架台側面などに取り付けてください。

Attach the User's guide case to the printer.

Remove the adhesive cover sheet on the backside and affix the case on the printer. Be sure to consult your customer for the attachment position.



MEMO

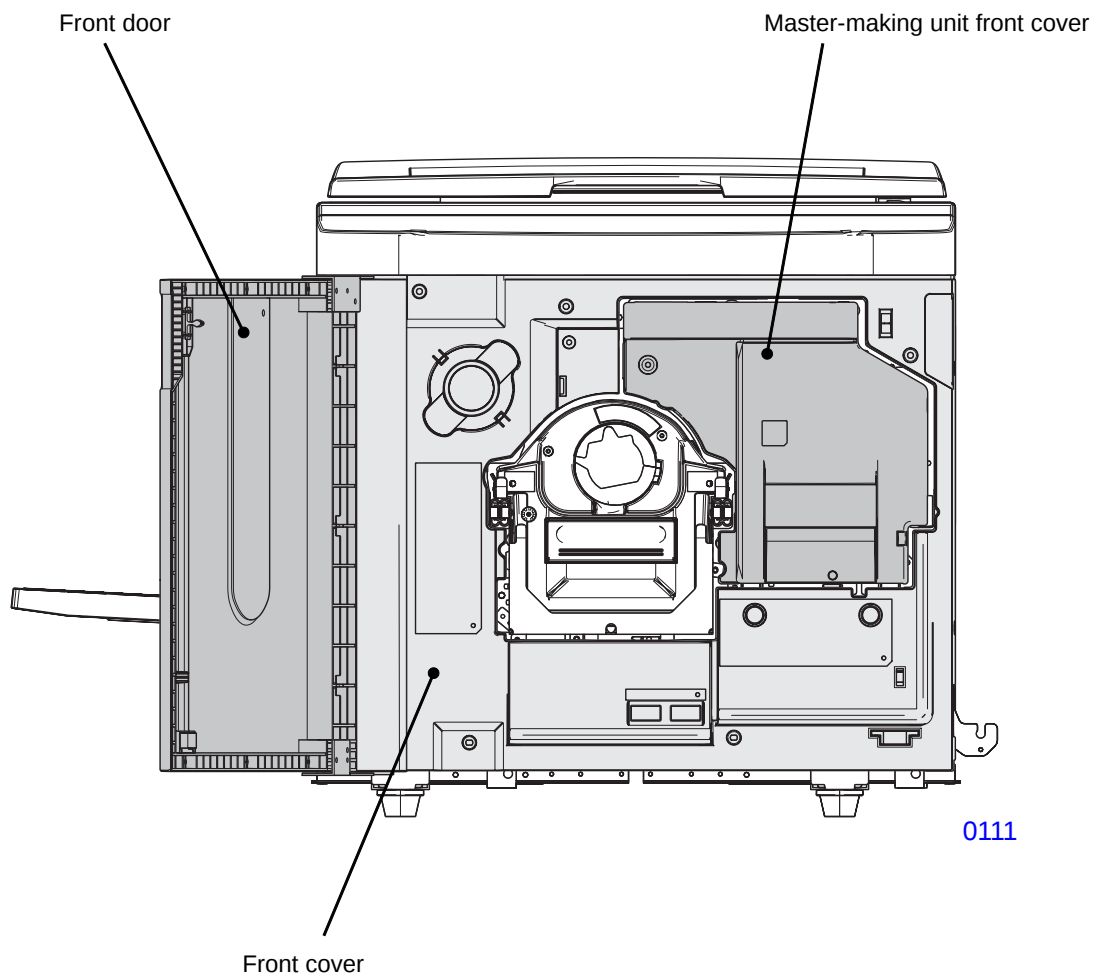
5. Exterior Cover Removal

Front cover

- (1) Open the front door, remove screws (M4x8: 5pcs).
- (2) Close the front door, remove screws (M4x8: 2pcs) on the paper feed side and screws (M4x8: 2pcs) on the paper ejection side, and then dismount the front cover together with the front door.

Master-making unit cover; front

- (1) With the machine power on, press the green release button to release the master-making unit and pull out the unit.
- (2) Remove screws (M4x8: 4 pcs) from the master-making unit front cover and remove the cover.



0111

Stage cover

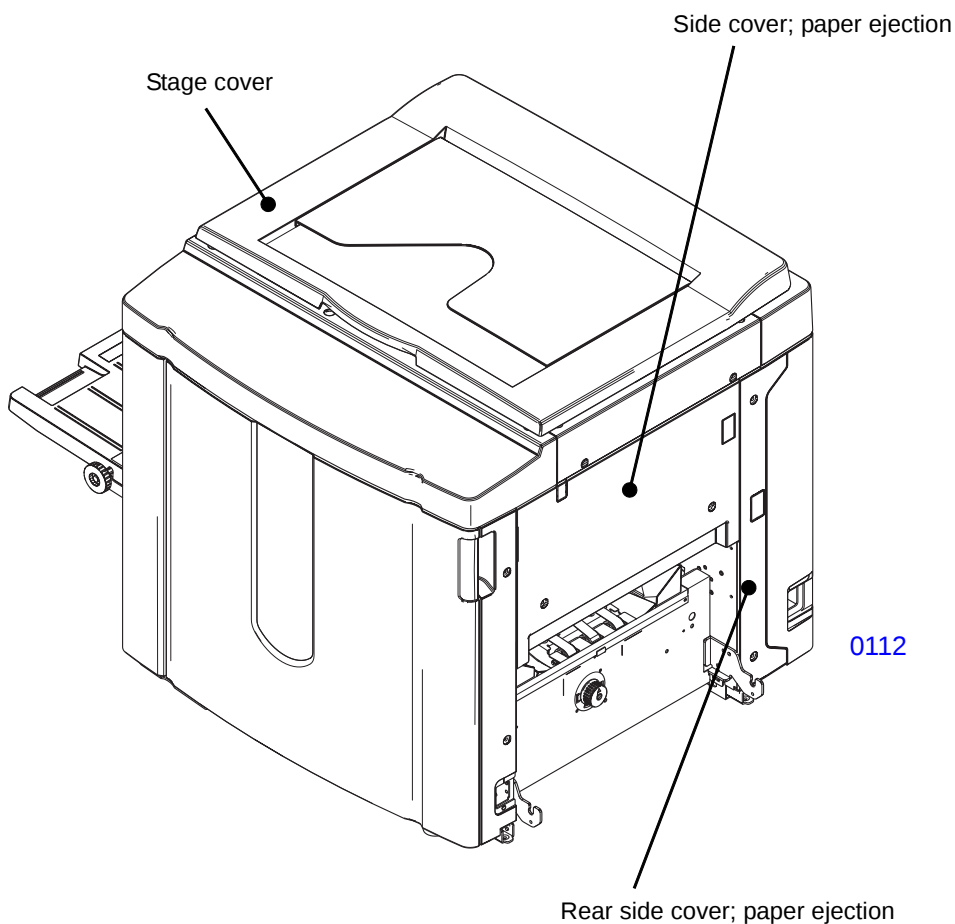
- (1) Open the stage cover, remove a screw (M4x10: 1pc each) from each of the two hinges (right and left) of the stage cover, and then attach those screws in the screw holes behind. Lift the stage cover off the machine.

Side cover; paper ejection

- (1) Remove screws (M4x8: 2pcs), and dismount the side cover;paper ejection.

Rear side cover; paper ejection

- (1) Remove the following covers.
 - Rear cover
 - Stage cover
 - Scanner rear cover
 - Scanner cover;paper ejection
- (2) Remove screws (M4x8: 2pcs), and dismount the rear side cover;paper ejection.



Rear cover

- Remove screws (M4x8: 4pcs), and dismount the rear cover.

Side cover; paper feed

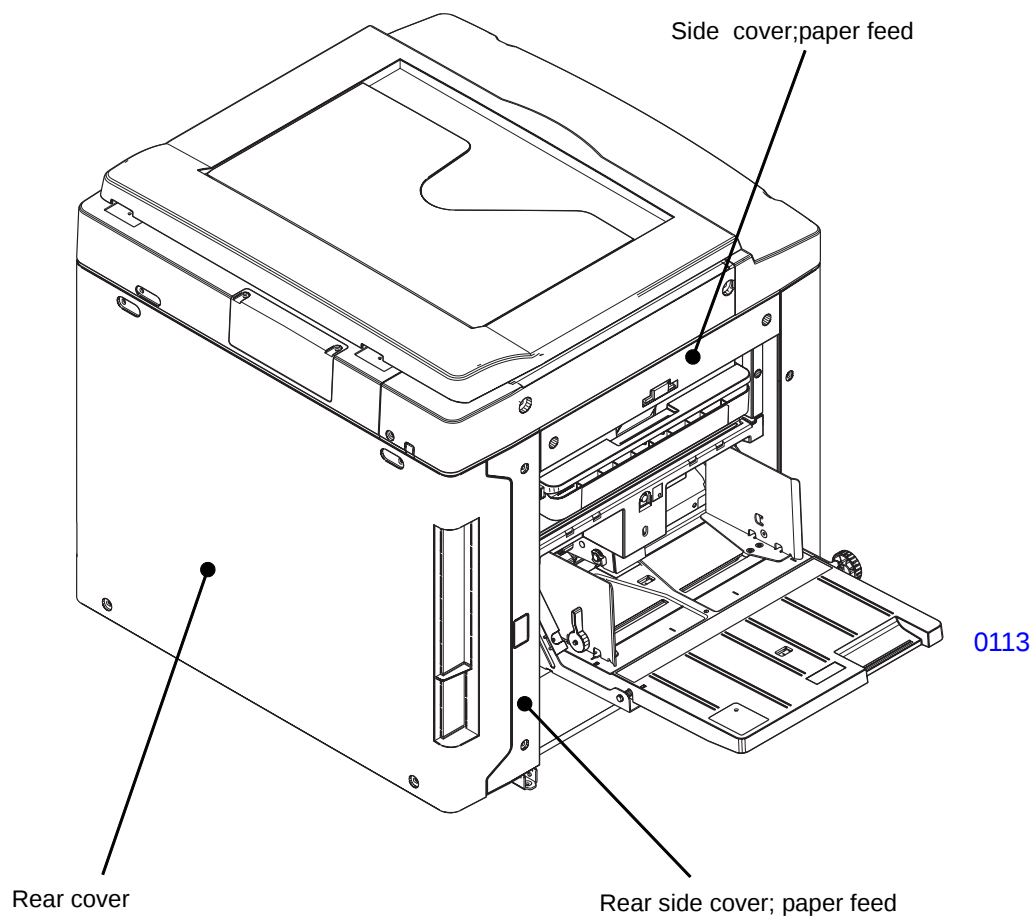
- Remove screws (M4x8: 2pcs), and dismount the side cover;paper feed.

Rear side cover; paper feed

- (1) Remove the following covers.

- Rear cover
- Scanner cover; paper feed

- (2) Remove screws (M4x8: 2pcs), and dismount the rear side cover;paper feed.



Scanner cover; paper feed

- Remove screws (M4x8: 3pcs), and dismount the scanner cover;paper feed.

Scanner cover; paper ejection

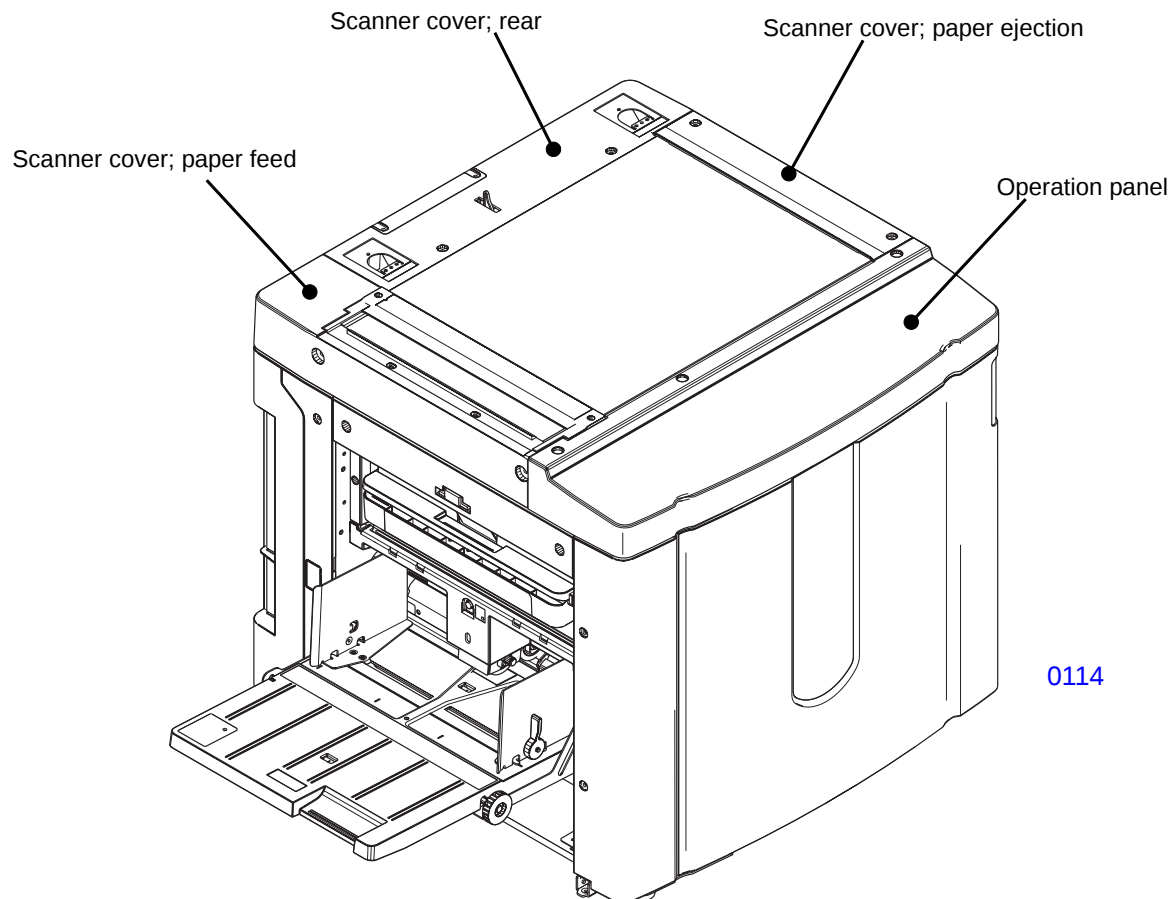
- Remove screws(M4x8: 4pcs), and dismount the scanner cover;paper ejection.

Scanner cover; rear

- (1) Dismount the stage cover.
- (2) Remove screws(M4x8: 3pcs), and dismount the scanner cover;rear.

Operation panel

- (1) Remove screws (M4x8: 3pcs)
- (2) Lift up the operation panel after sliding to the front, unplug the connector, and then remove the operation panel.



0114

6. Opening the PCB Brackets

Power Supply PCB & System Control PCB Bracket

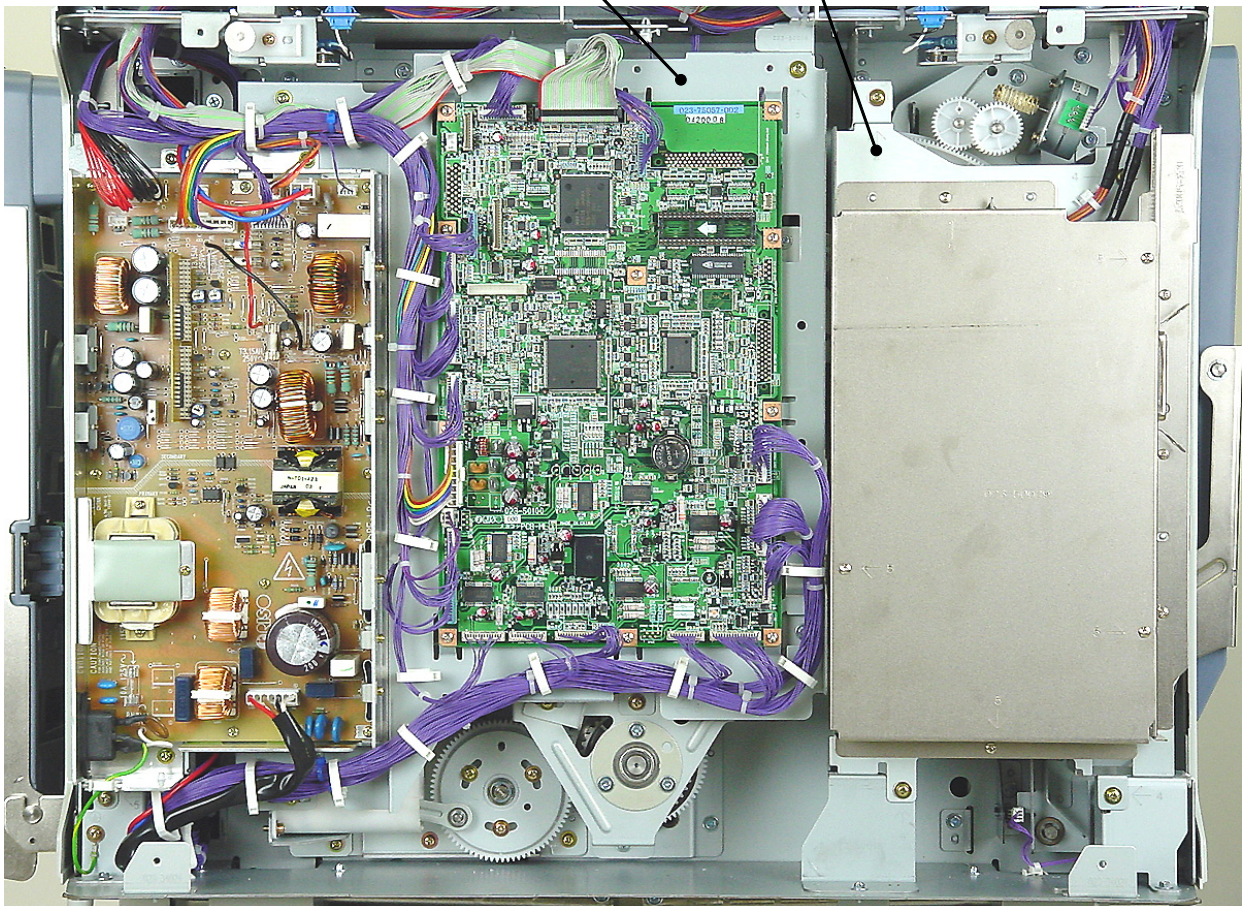
- (1) Switch off the power, and dismount the rear cover.
- (2) Remove screws (M4x8: 5pcs) and slowly swing open the PCB bracket on which the power supply and mechanical control PCBs are mounted.

SH3M2 PCB Bracket

- (1) Switch off the power, and dismount the rear cover.
- (2) Remove screws (M4x8: 4pcs) and slowly swing open the PCB bracket on which the SH3M2 PCB is mounted.

PCB bracket on which the power supply and mechanical control PCBs are mounted.

PCB bracket on which the SH3M2 PCBs is mounted.



0115

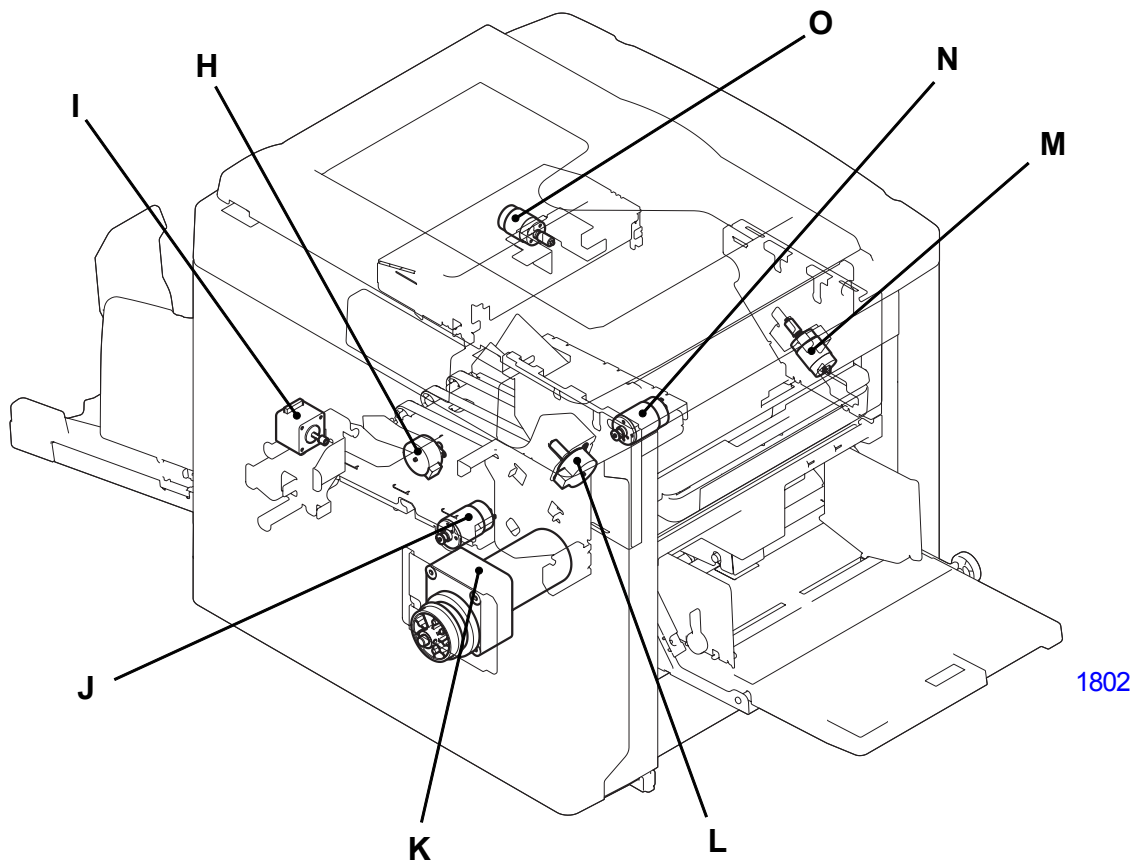
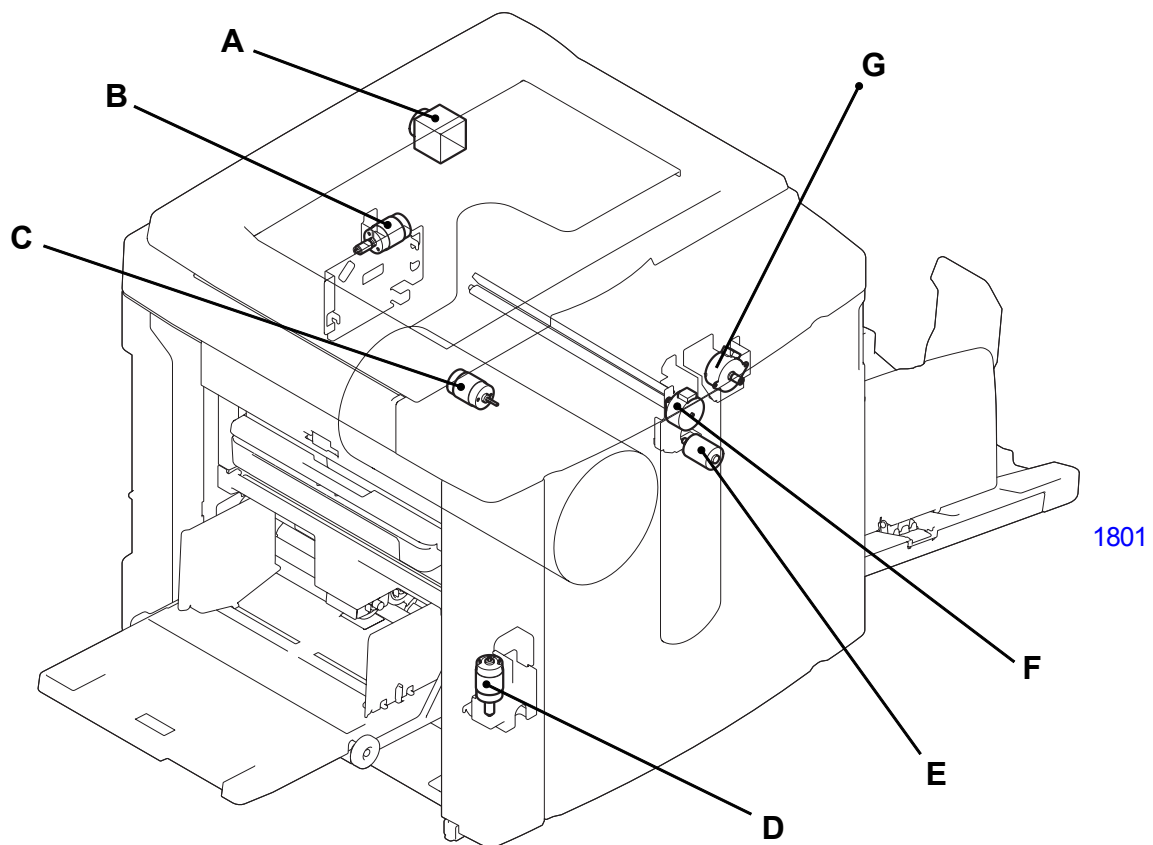
MEMO

CHAPTER 18: ELECTRICAL COMPONENTS

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4. Other Sensors, Switches, Volume Dial	18-8
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1. Motor

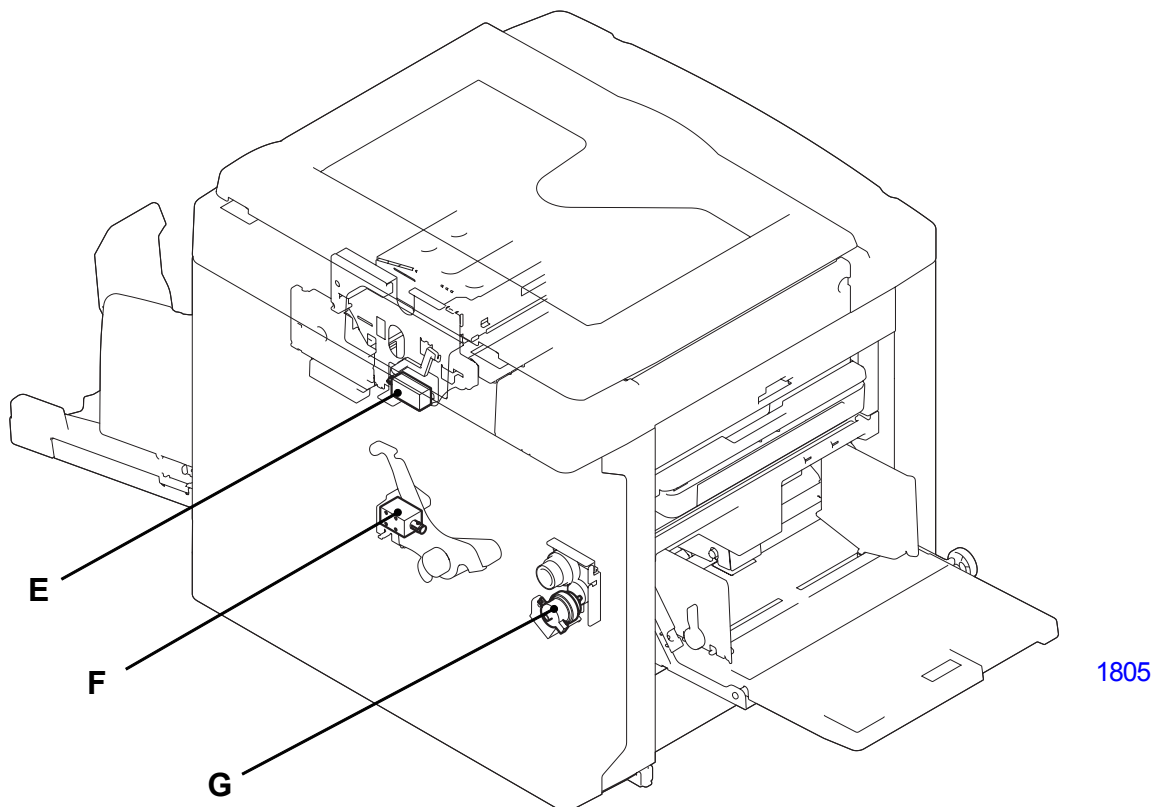
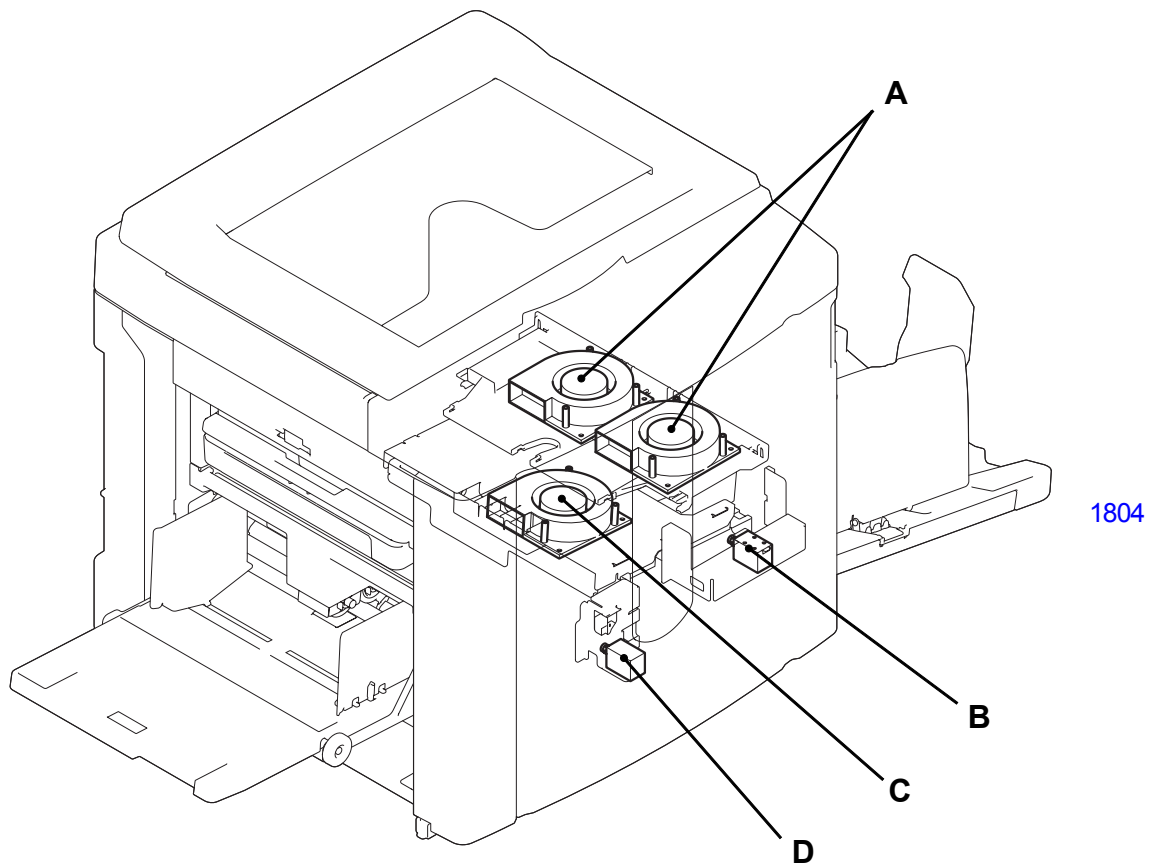


Item	Part Name	Function	Test Mode No.
A	Read pulse motor	Drives the Lamp carriage and Mirror carriage.	0284
B	Clamp motor	Drives the Clamp opening cam and Position-A compensation plate.	0863 0864
C	Inking motor	Drives the Ink pump.	----
D	Elevator motor	Elevates the Paper feed tray up and down.	0682
E	Cutter motor	Activates the cutter unit.	0480
F	Load pulse motor	Drives the Load roller and Clamping guide roller.	0464
G	Write pulse motor	Drives the Write roller.	0462 0463
H	Paper ejection wing pulse motor	Elevates the Paper ejecton wing up and down.	0666 0667
I	Pressure control pulse motor	Changes the printing pressure.	0905
J	Paper ejection motor	Drives the Suction unit belt.	0660
K	Main motor	Drives the Main drive.	0861
L	Print registration pulse motor	Changes the Vertical print position.	0901
M	Master compression motor	Drives the Master compression plate.	0493
N	Master removal motor	Drives the Master disposal rollers.	0470
O	Thermal pressure motor	Elevates the TPH up and down.	0460 0461

1803

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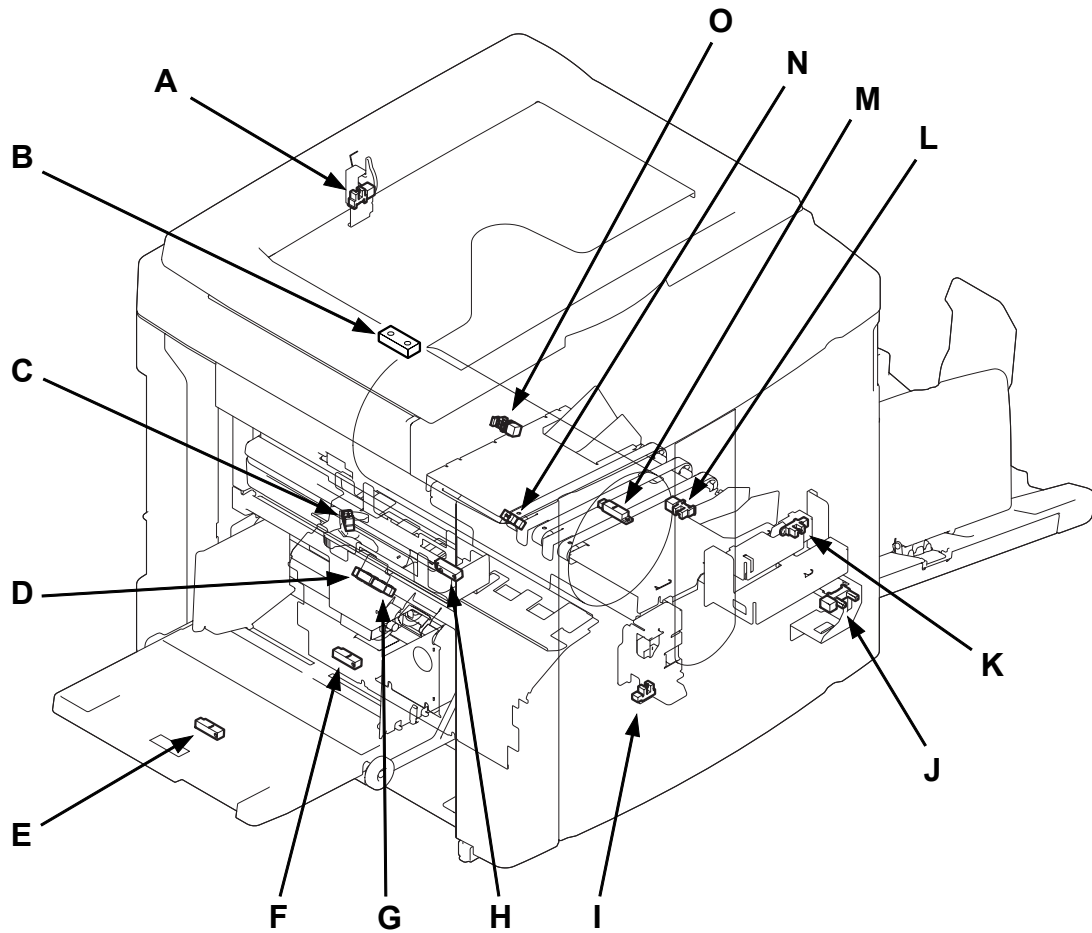
2. Fan, Solenoid, Solenoid Clutch



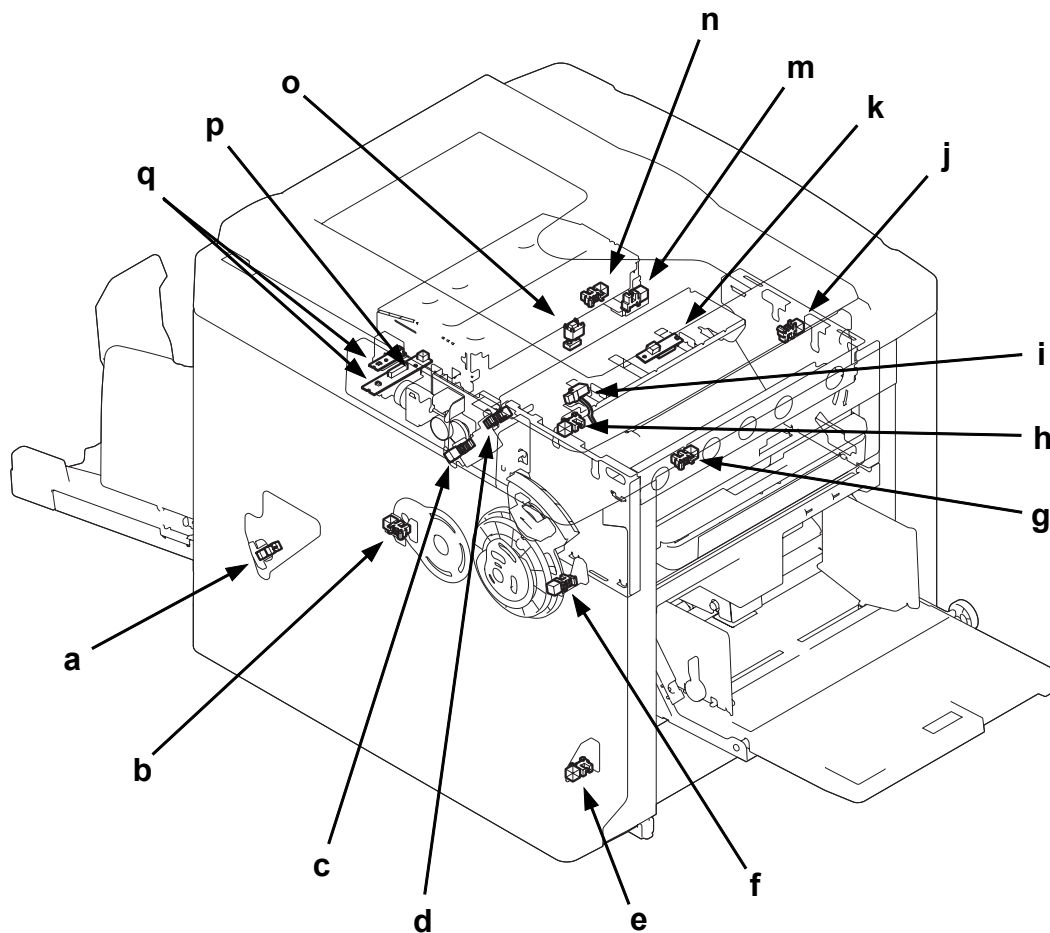
Item	Part Name	Function	Test Mode No.
A	Separation fan	Assists separation of the paper from the Print drum.	0662
B	Master making unit lock solenoid	Locks or unlocks the Master-making unit.	0488
C	Suction fan	Pulls the paper onto the Suction unit.	0661
D	Print drum lock solenoid	Locks or unlocks the Print drum.	0885
E	Master stocker solenoid	Up-down motion of the Master stocker guide plate.	0489
F	Pressure solenoid	ON/OFF of the Pressure roller UP/DOWN motion.	0886
G	Paper feed clutch	Drive transfer to the Scraper and Pickup rollers.	0688

[1806](#)

3. Photoelectric Sensor



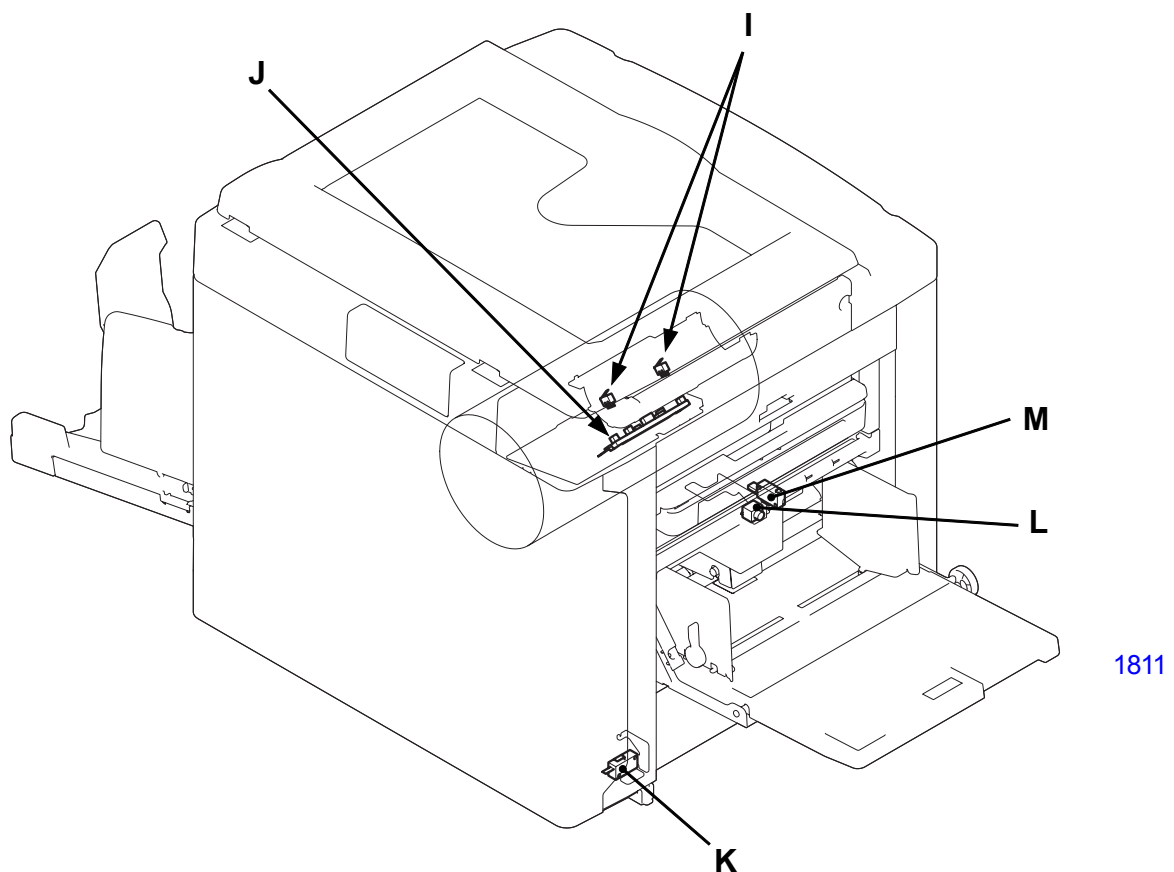
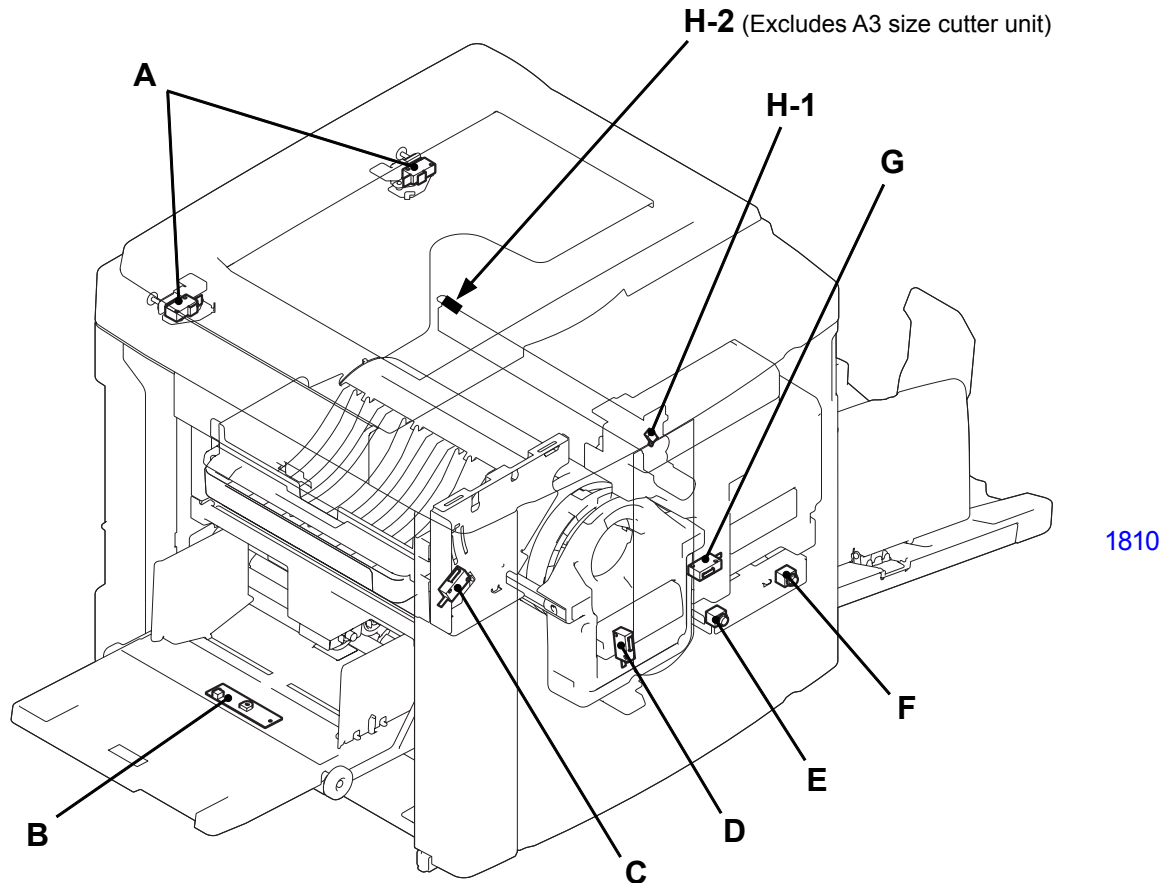
1807



1808

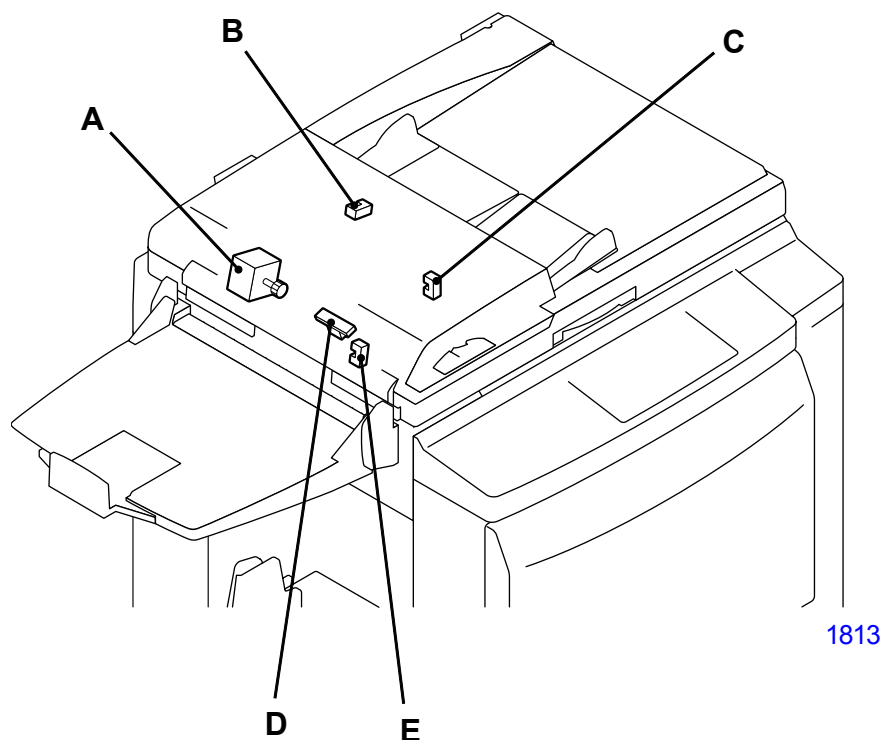
Item	Part Name	Sensor Type	Function	Test Mode No.
A	Stage cover sensor	Interruptive	Checks the open/close condition of the Stage cover.	0209
B	FB original detection sensor	Reflective	Checks the presence of the original on the Stage glass.	0201
C	Paper feed pressure sensor	Interruptive	Checks the position of the Paper feed pressure lever.	0614
D	Upper limit sensor B	Interruptive	Detects the Paper feed tray upper limit position.	0603
E	Paper size detection sensor	Reflective	Detects the length of the paper on the Paper feed tray.	0601
F	Paper detection sensor	Reflective	Detects the presence of the paper on the Paper feed tray.	0600
G	Upper limit sensor A	Interruptive	Detects the Paper feed tray upper limit position.	0602
H	Paper sensor	Reflective	Checks the 1st paper feed area paper feed condition.	0605
I	Drum lock sensor	Interruptive	Checks the Print drum lock condition.	0807
J	Front cover set sensor	Interruptive	Checks the Front door open/close condition.	0817
K	Master making unit lock sensor	Interruptive	Checks the Master-making unit lock condition.	0408
L	Paper ejection wing HP sensor	Interruptive	Detects the home position of the Paper ejection wing.	0618
M	Paper ejection sensor	Reflective	Checks the paper ejection area paper receiving condition.	0606
N	Paper ejection FG sensor	Interruptive	Checks the speed of Paper ejection motor.	0612
O	Inking motor FG sensor	Interruptive	Checks the rotation of the Inking motor.	0812
a	Pressure HP sensor	Interruptive	Detects the print pressure home position.	0830
b	Position B sensor	Interruptive	Detects the machine B-position.	0801
c	Clamp sensor B	Interruptive	Checks the Clamp unit operation.	0804
d	Clamp sensor A	Interruptive	Checks the Clamp unit operation.	0803
e	Lower limit sensor	Interruptive	Detects the Paper feed tray lower limit position.	0604
f	Vertical centering sensor	Interruptive	Detects the home position of the vertical print position.	0831
g	Master disposal FG sensor	Interruptive	Checks the speed of Master disposal motor.	0426
h	Master compression plate HP sensor	Interruptive	Detects the home position of the Master compression plate.	0421
i	Master disposal jam sensor	Actuator	Checks the master disposal area master disposal condition.	0420
j	Compression FG sensor	Interruptive	Checks the Master compression plate position and the speed of the Master compression motor.	0425
k	Master sensor	Reflective	Looks for master on the drum.	0806
m	Master making unit upper cover set sensor	Interruptive	Checks for the set condition of the M-M-unit upper cover.	0407
n	Thermal pressure sensor	Interruptive	Checks the up/down position of the TPH.	0406
o	Master positioning sensor	Reflective (prism)	Detects the master waiting position, and checks the master cut status.	0400
p	Master detection sensor	Reflective	Looks for master set in the Master-making unit.	0401
q	Master end sensor	Transmittive	Detects the end of the master material.	0402

4. Other Sensor, Switches, Volume Dial



Item	Part Name	Function	Test Mode No.
A	Serviceman safety switch	Checks the presence of the Rear cover. Acts as interlock safety switch.	0005
B	Paper width potentiometer	Detects the width of the paper on the Paper feed tray.	Refer to page 4-26
C	Master disposal box safety switch	Detects the presence of the Master disposal box. Acts as interlock safety switch.	0423
D	Print drum safety SW	Detects the presence of the Print drum. Acts as interlock safety switch.	0820
E	Print drum release button	Releases the lock on the Print drum.	0818
F	Master making unit release button	Releases the lock on the Master making unit.	0410
G	Master making unit safety switch	Detects the presence of the Master making unit. Acts as interlock safety switch.	0409
H-1	Cutter HP switch	Detects the home position of the Cutter blade.	0403
H-2	Cutter stop position switch	Detects the stop position of the Disc shuttle cutter. (Excludes A3 size Cutter unit)	0404
I	Ink cartridge set switch	Detects the presence of the Ink cartridge.	0811
J	Ink sensor Overflow sensor	Detects the bead of the Ink. Detects the Ink overflow.	0809 0810
K	Paper feed tray lower safety switch	Immediate stop of the Elevator motor.	0608
L	Paper feed tray button	Elevates the Paper feed tray up or down by pressing this button.	0609
M	Paper feed tray upper safety switch	Immediate stop of the Elevator motor.	0607

1812

5. AF (auto-document feeder) - Option

Item	Part Name	Function	Test Mode No.
A	AF read pulse motor	Drives the original transfer rollers on AF unit.	3030 3031
B	AF original detection sensor	Detects the presence of the Original.	3004
C	AF registration sensor	Checks the Original transfer status.	3001
D	AF read sensor	Checks the Original transfer status.	3002
E	AF original ejection sensor	Checks the Original ejection out of AF unit.	3003

1814

RZ 3 / 5 SERIES

PARTS LIST

Version 3.0

February, 2005

Published by
RISO KAGAKU CORPORATION
Overseas Technical Department

MACHINE MODELS

Refer to the chart below for the "Remark" column in this parts list.

The "REF" alphabets in the chart below is marked in the "Remark" column within the parts list where applicable.

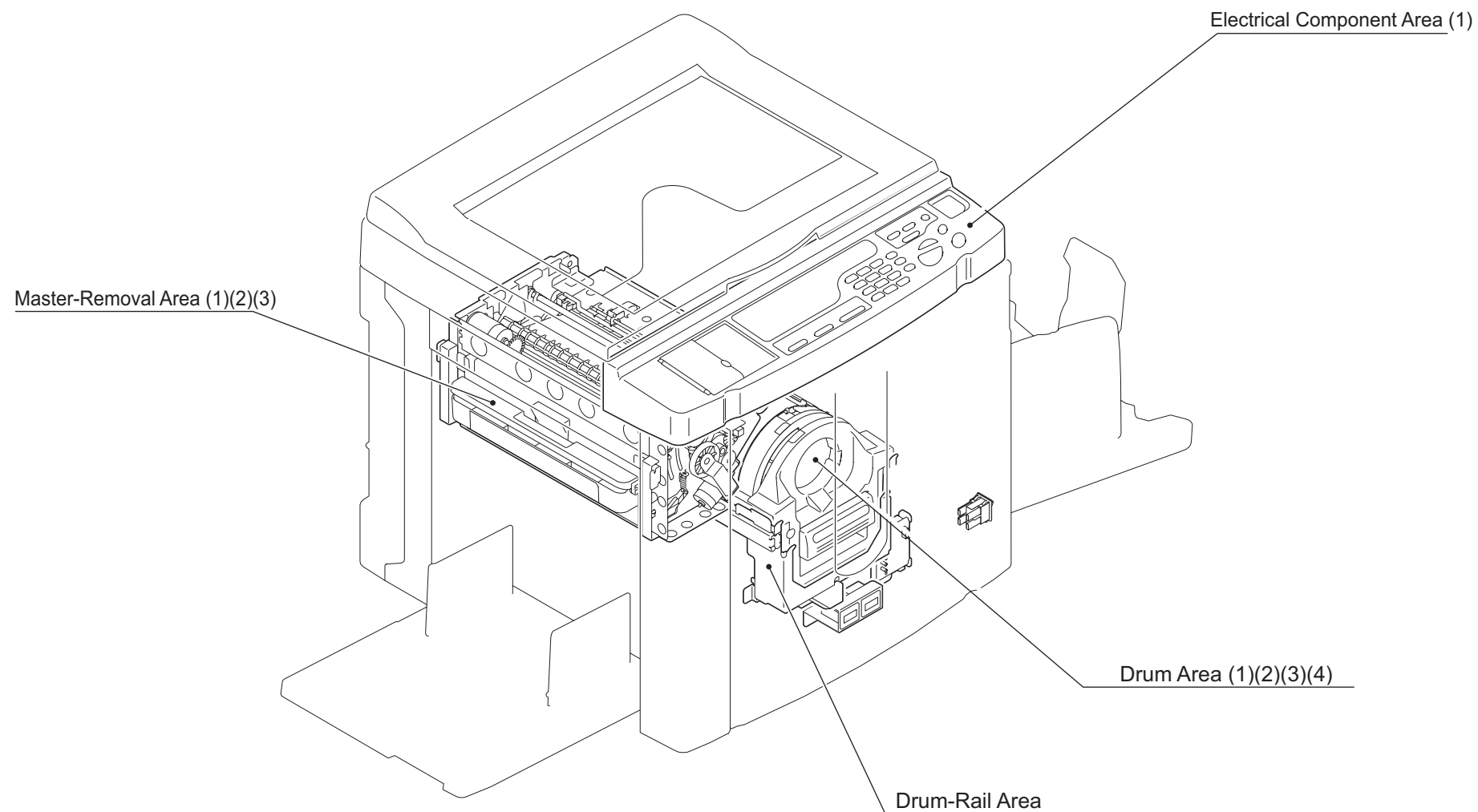
RZ 3 Series

Area & Voltage	Model Name	Dpi	REF
USA 100 volts	RZ390	D600	UI
	RZ310	D600	UI
USA 200 volts	RZ370	D600	UP
Europe 200 volts	RZ370	D600	EP
	RZ300	D600	EP
Asia 100 volts	RZ370	D600	AN
Asia 200 volts	RZ370	D600	AW
	RZ330	D600	AW
China200 volts	RZ370	D600	C/CN

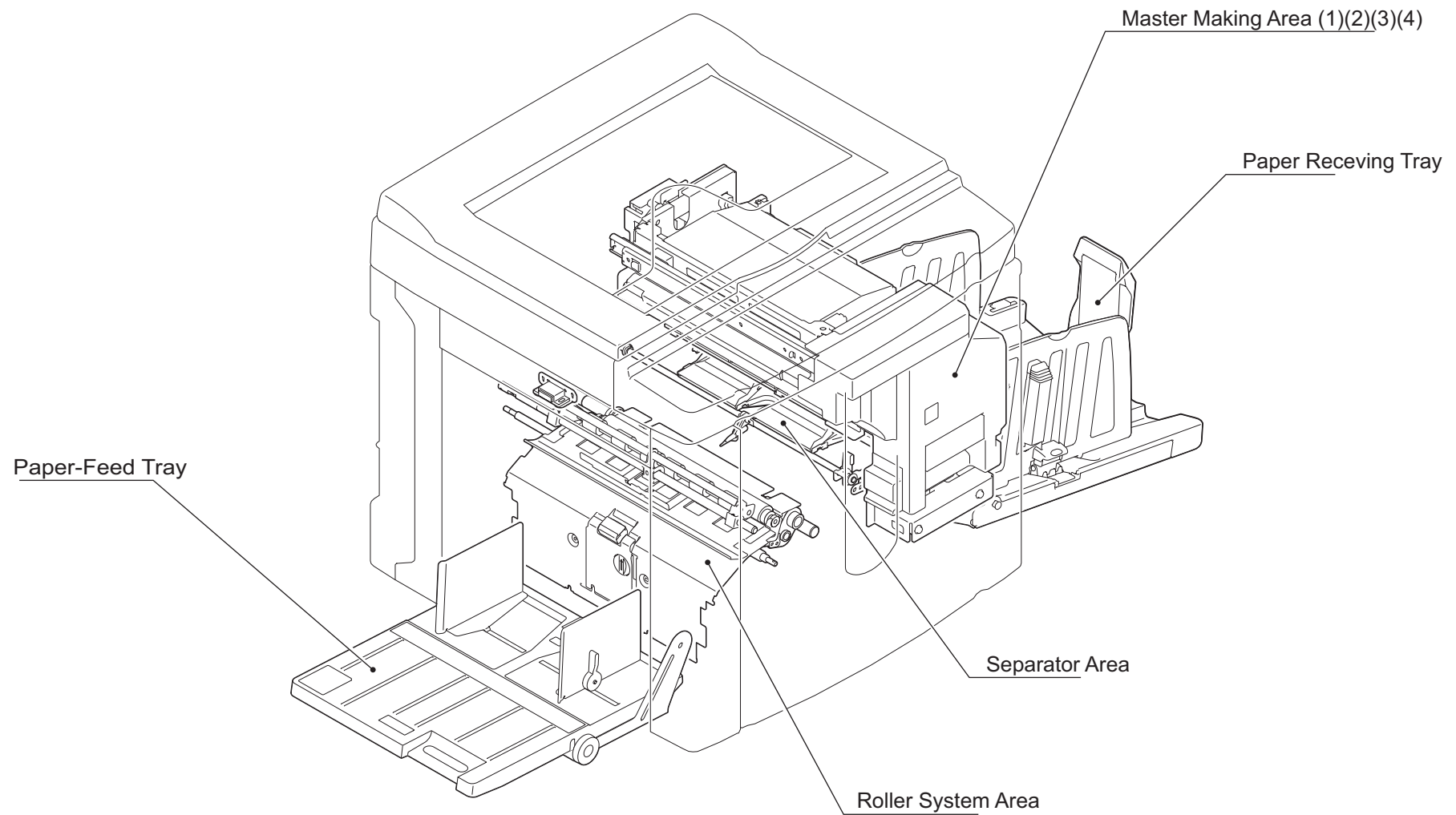
RZ 5 Series

Area & Voltage	Model Name	Dpi	REF
USA 100 volts	RZ590	D600	UI
	RZ510	D600	UI
USA 200 volts	RZ570	D600	UP
Europe 200 volts	RZ570	D600	EP
	RZ500	D600	EP
Asia 100 volts	RZ570	D600	AN
Asia 200 volts	RZ570	D600	AW

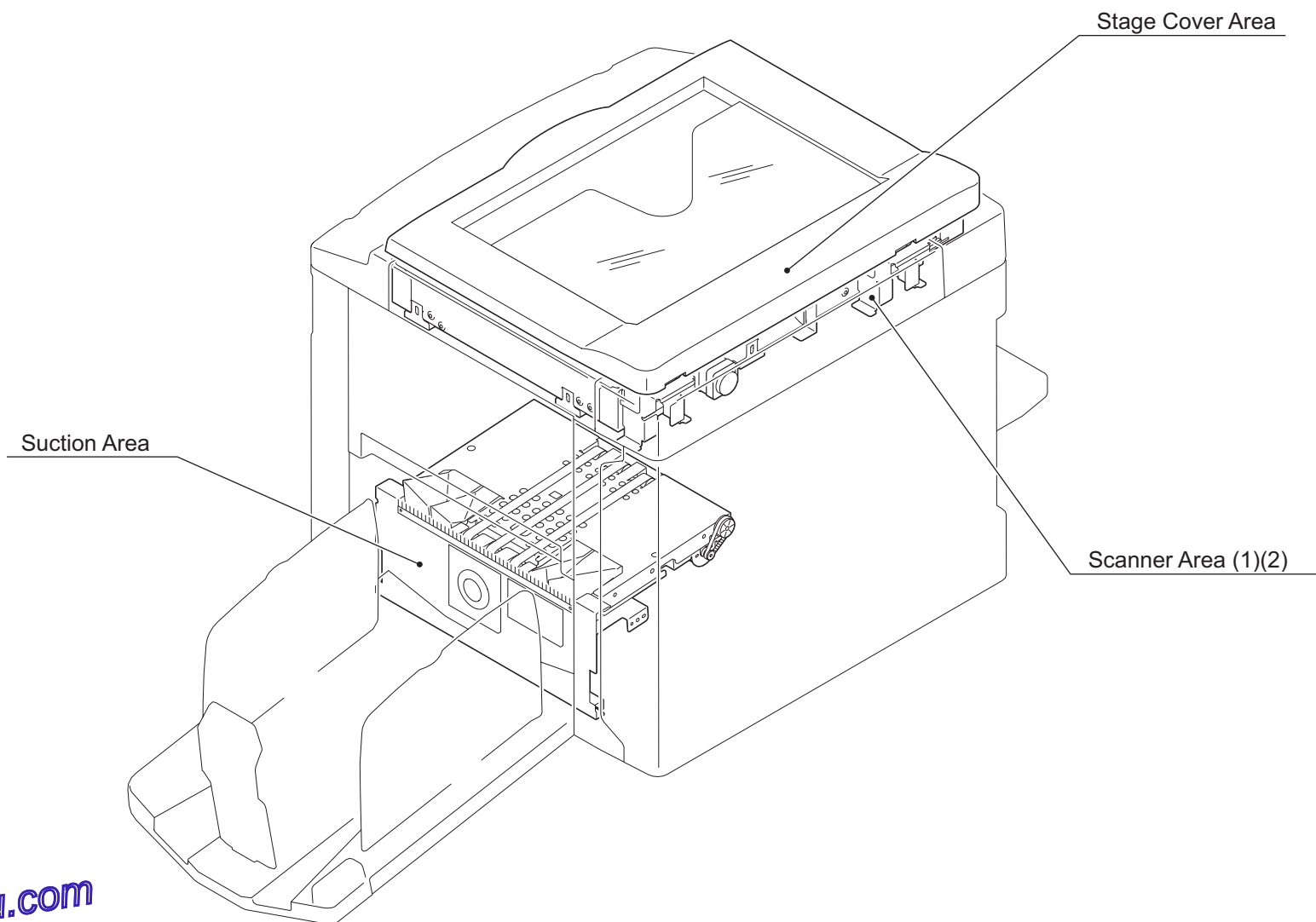
Component 1



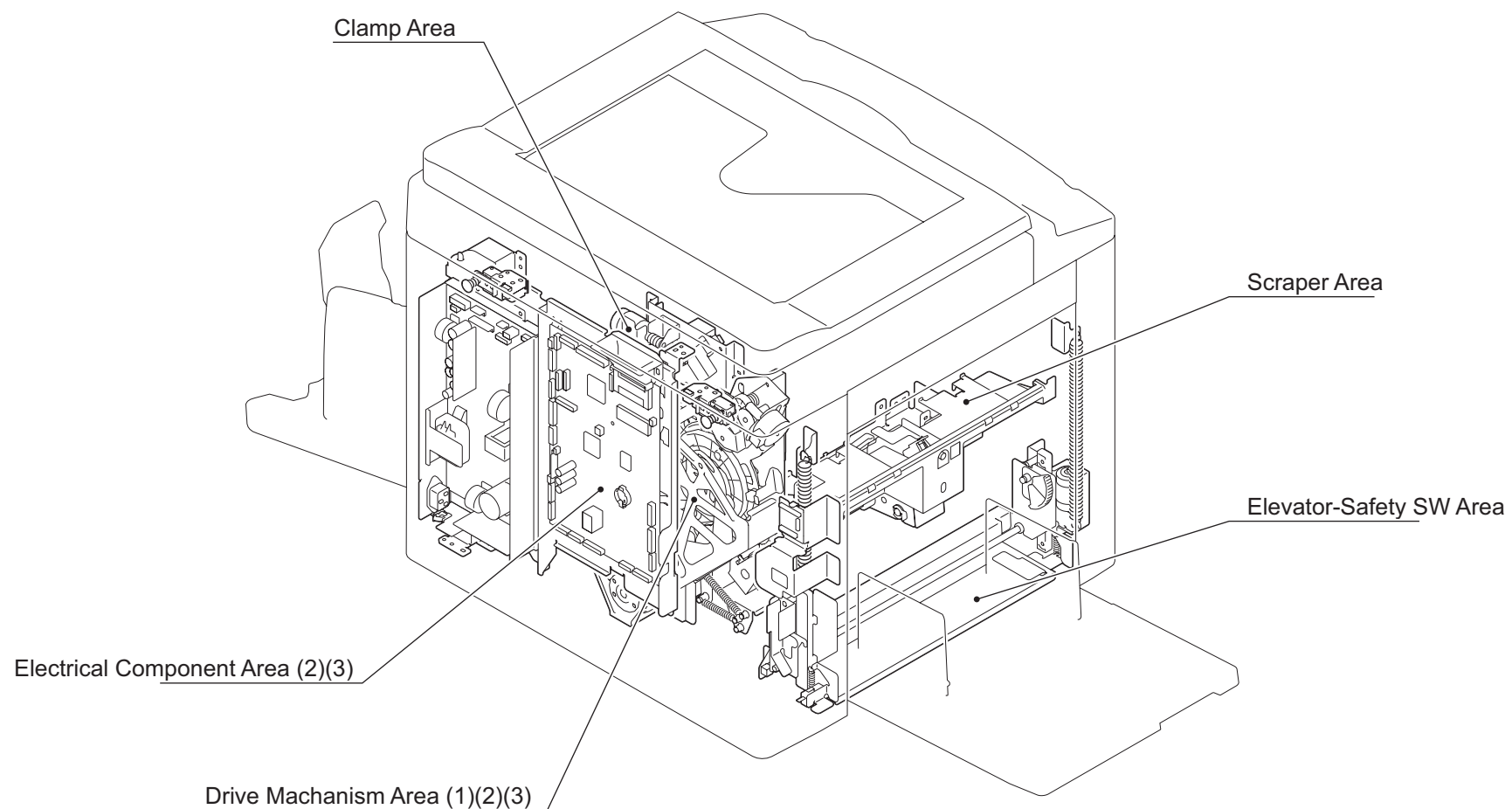
Component 2



Component 3



Component 4



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Amended note (Version comparison)

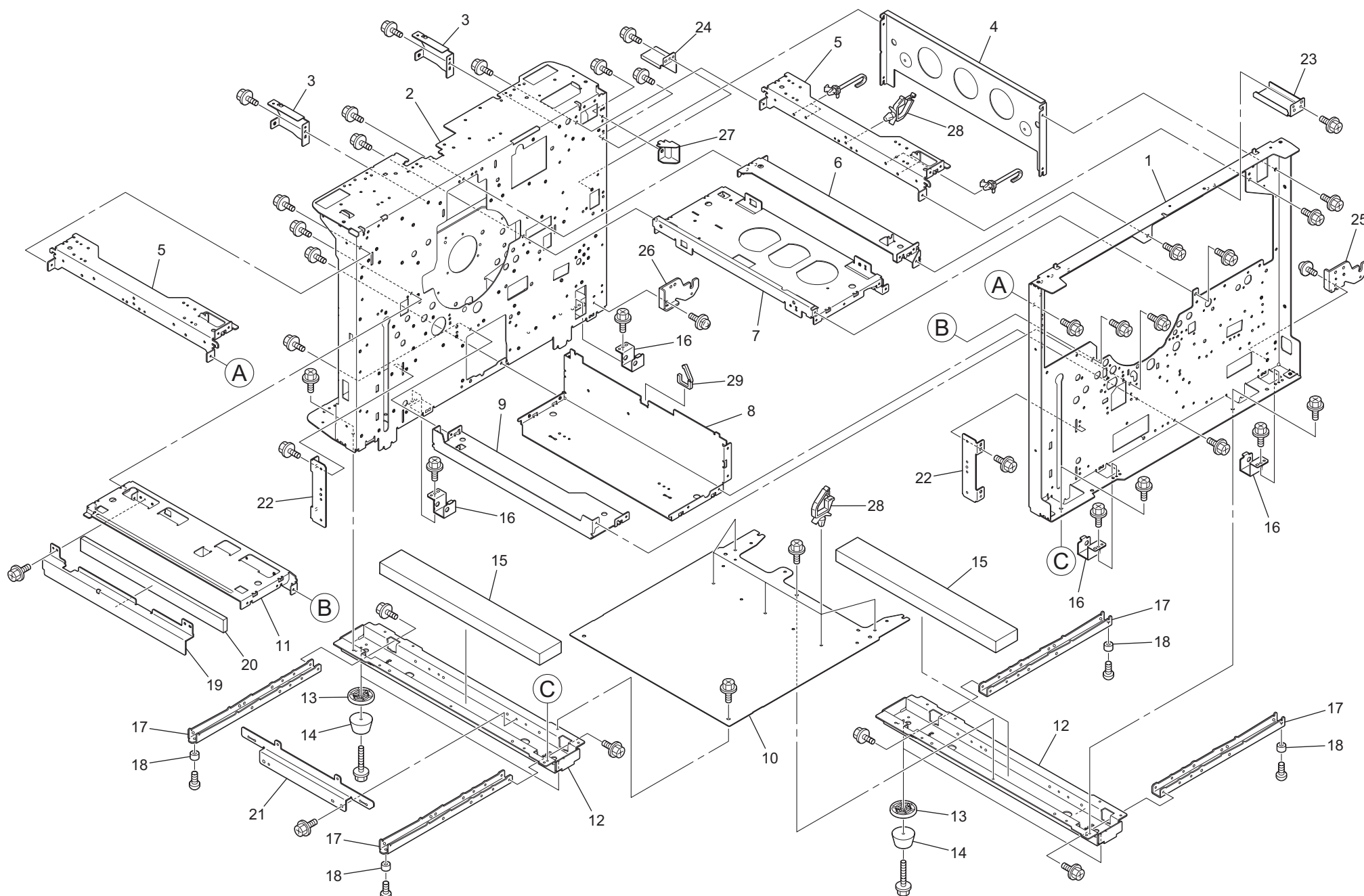


Yellow marked parts are RZ5 new parts or modification parts.



Blue marked parts are just last 3 digits number change or minor note.

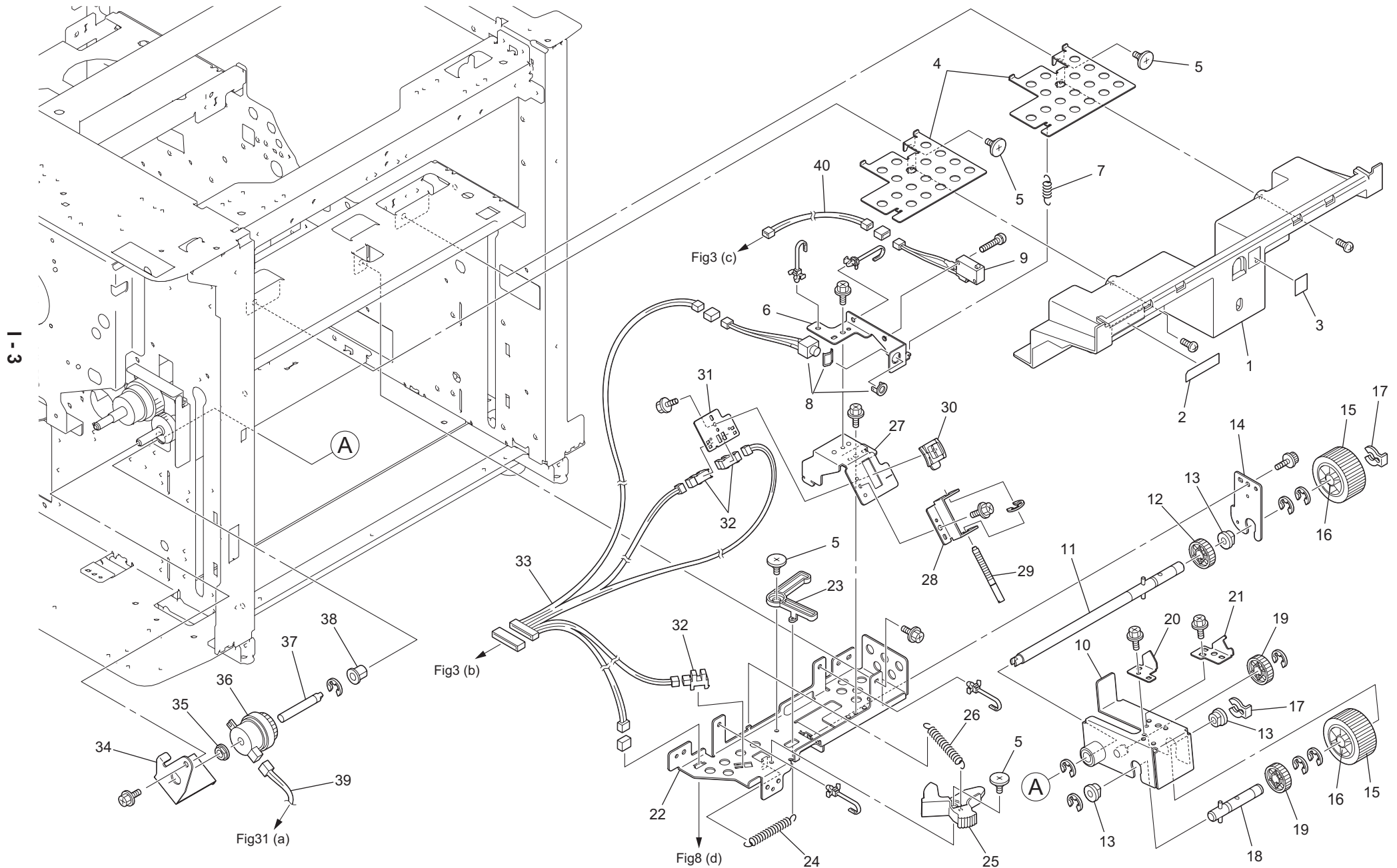
Fig1. Main Body Area



1-2

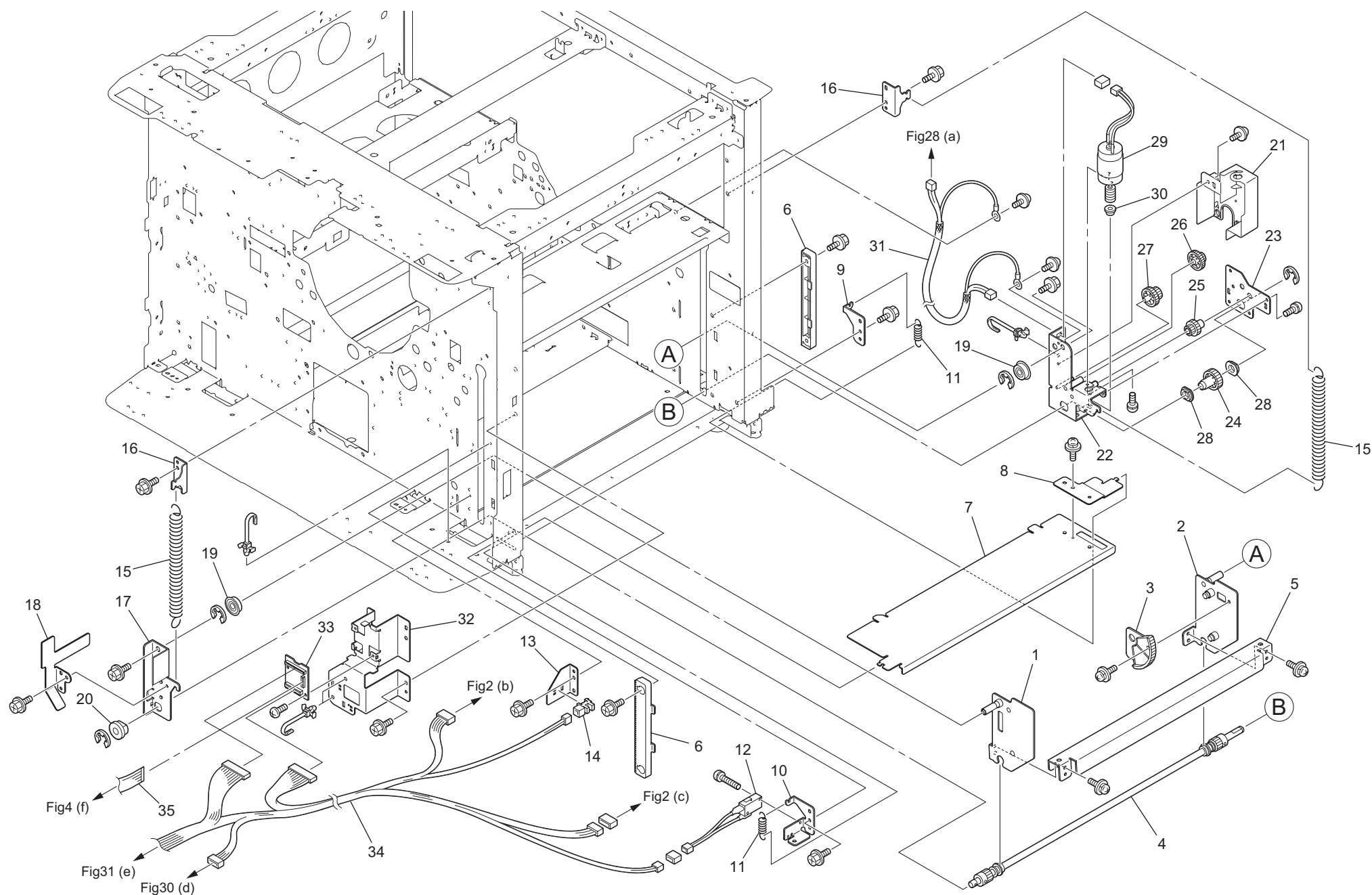
[illegible]

Fig2. Scraper Area



1-4

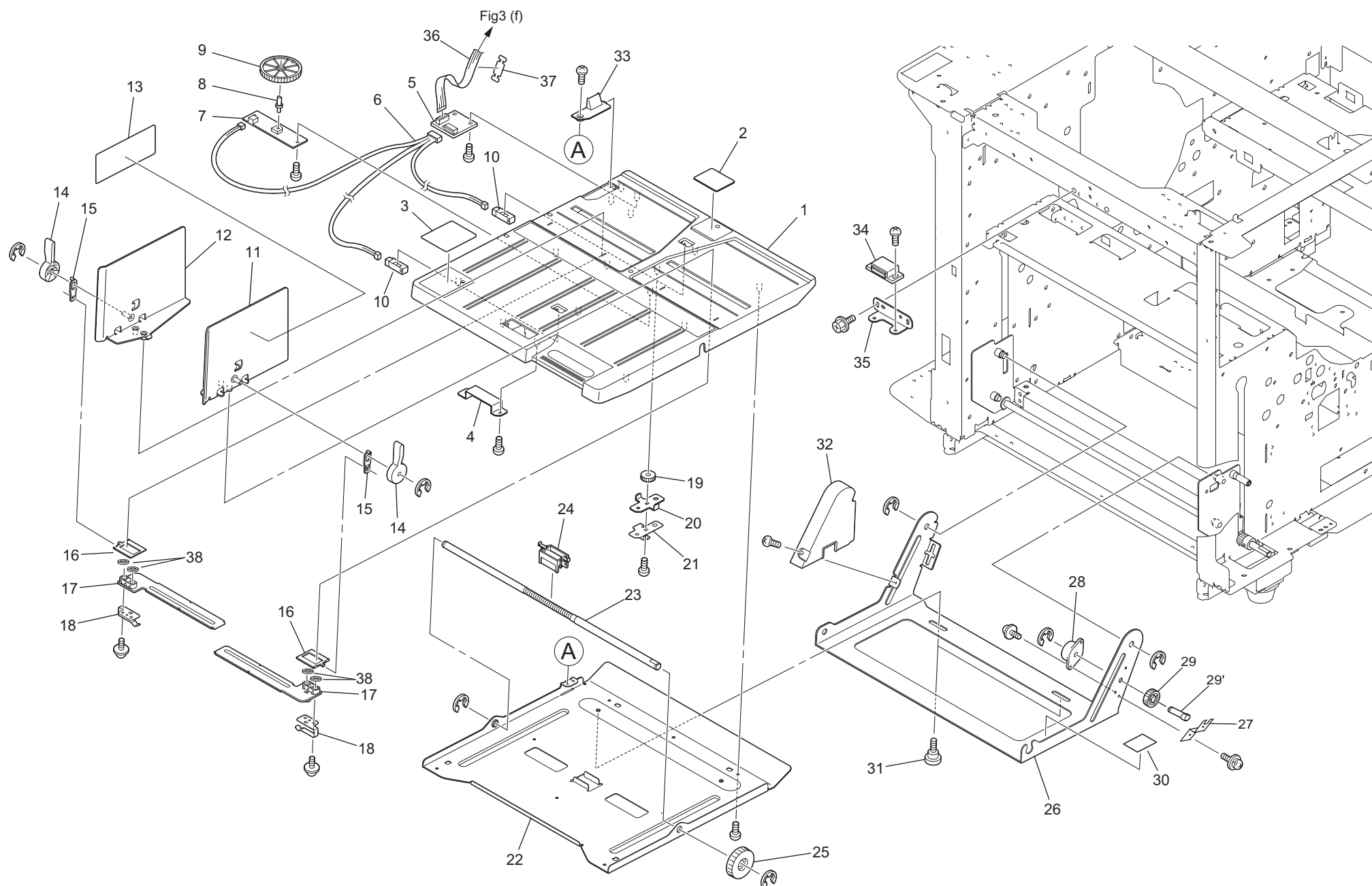
[illegible]



No.	Part No.	Part Name	Q'ty	Remark
1	023-12207-403	Side Frame R; Elevator	1	
2	023-12216-500	Side Frame F; Elevator	1	
3	023-12261-009	Absorber Gear II; P.-F.	1	
4	023-75159-050	Elevator Shaft Ass'y	1	
5	023-12232-106	Reinforcement Plate; Elevator	1	
6	023-12201-006	Elevator Rack; P.-F.	2	
7	023-12205-001	Lower limit Frame; P.-F.	1	
8	023-12206-008	Support; Lower limit Frame; P.-F.	1	
9	023-12251-003	Bracket F; Spring; Lower Safety SW	1	
10	023-12252-000	Bracket R; Spring; Lower Safety SW	1	
11	023-12237-000	Spring; Elevator Safety SW; Lower	2	
12	023-53023-007	Elevator Safety SW	1	
13	023-12233-102	Bracket; Lower limit Sensor	1	
14	444-30008-002	Sensor; LG-248NI1	1	
15	023-12202-002	Spring; Elevator	2	
16	023-12203-009	Bracket; Elevator Spring; P.-F.	2	
17	023-12231-002	Hook Rear; Elevator Spring	1	
18	023-12238-007	Guide; Flexible Wire; P.-F.	1	
19	600-50057-006	Bearing;Flaw678 ZZA	2	
20	607-15000-000	Metal; f8X13/12X5;16X2	1	
	023-75078-050	Elevator Motor Assy(21-30)	1	
21	023-12247-006	*Cover; Elevator Motor	1	
22	023-12234-001	*Motor Chassis; Elevator Motor	1	
23	023-12223-000	*Gear Cover; Elevator Motor	1	
24	612-10009-107	*Gear; M1x24	1	
25	612-80011-001	*Gear; M0.8X23+M0.8X14	1	
26	612-80012-008	*Gear; M0.8X30+M0.8X14	1	
27	612-80013-004	*Gear; M0.8X29+M1X14	1	
28	023-12244-104	*Elevator Motor Collar	2	
29	023-74001-046	*Motor Assy (CWRS-445PA)	1	
30	030-19205-001	*Support; Clamp Worm	1	
31	023-12602-108	Wire Harness; Elevator Motor	1	
32	023-12257-001	Bracket; Paper Feed Junction PCB	1	
33	023-50036-108	Junction PCB; Paper Feed	1	

[illegible]

Fig4. Paper-Feed Tray

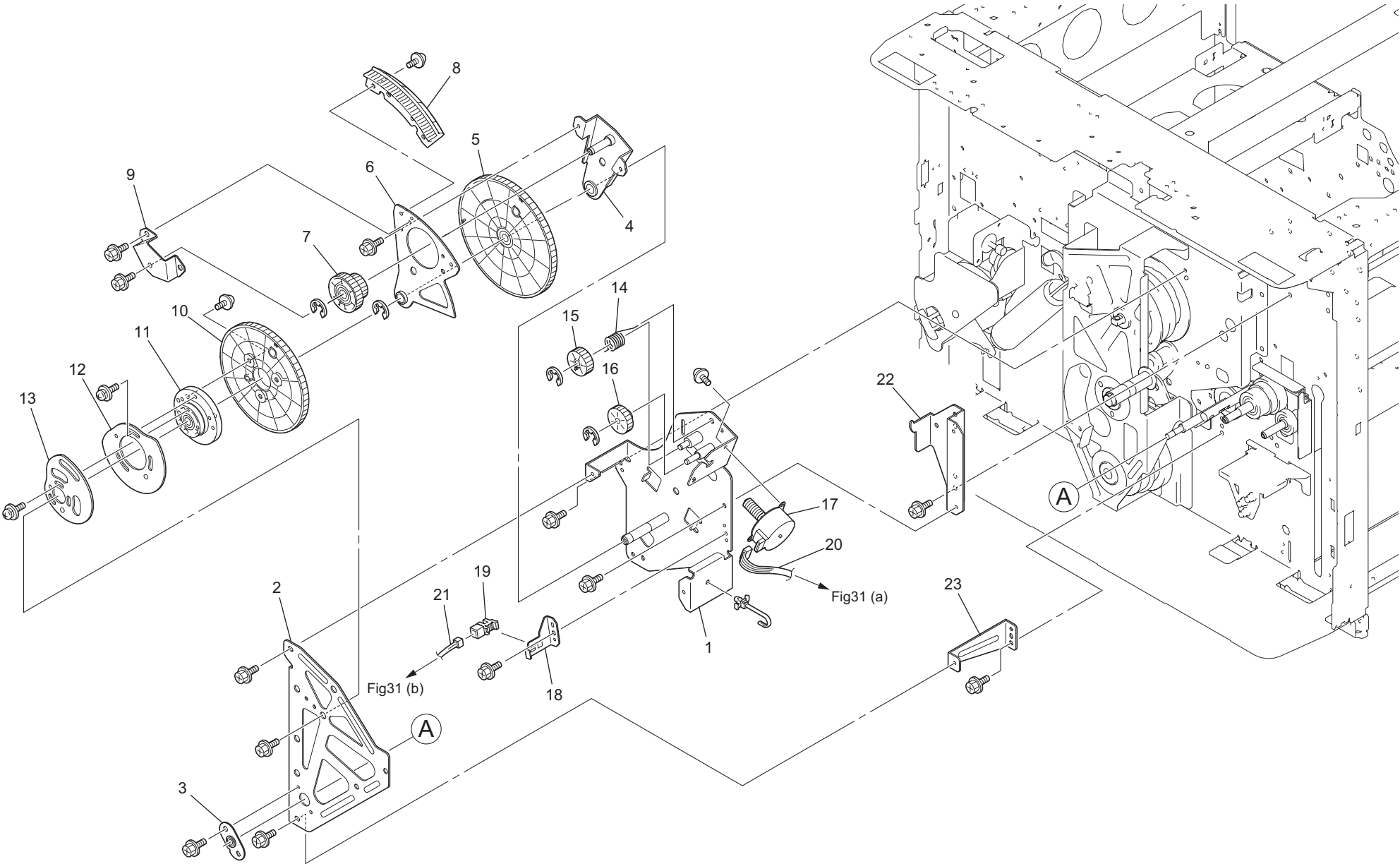


No.	Part No.	Part Name	Q'ty	Remark
	023-75082-058	P.-F.-T.Unit SU(1-33)	1	
1	023-12101-206	*Paper Feed Tray; Upper	1	
2	020-11520-009	*L.O. Sheet	1	
3	023-12150-002	*Seal; Closing Tray Instruction; P.-F.-T	1	
4	023-12126-004	*Bracket; Catch	1	
5	023-12604-100	*Junction PCB; P.-F. Tray	1	
6	023-12600-008	*Wire Harness; P.-F. Tray Inner	1	
7	023-12605-107	*Potentiometer; P.-F.-T	1	
8	023-12241-105	*Shaft; Potentiometer Gear	1	
9	612-10023-002	*Gear;M1X50X6	1	
10	444-33006-000	*Sensor; PS-117ED1	1	
11	023-12139-106	*Side Guide F; P.-F.-T	1	
12	023-12140-104	*Side Guide R; P.-F.-T	1	
13	023-12147-001	*Seal; Setting Instruction; P.-F.-T	1	
14	023-12108-006	*Lever; P.-F.-T.	2	
15	023-12109-002	*Link Plate A; P.-F.-T.	2	
16	023-12128-104	*Link Plate B;P.-F.-T.	2	
17	023-12127-000	*Slide Rack; P.-F.-T.	2	
18	023-12145-009	*Ground Plate; Side Guide; P.-F.-T	1	
19	011-11514-000	*Gear;Slide Rack;P.-F.-T.	1	
20	023-12129-003	*Guide Plate; Slide Rack	1	
21	023-12105-007	*Grounding Metal; P.-F.-T.	1	
22	023-12102-008	*Bottom Frame; P.-F.-T.	1	
23	023-12132-004	*Shaft; P.-F. Tray	1	
24	023-12123-102	*Adj. NUT; P.-F.-T.	1	
25	023-12133-000	*Adjuster Dial; P.-F.-T.	1	
26	023-12121-100	*Bracket ; P.-F.-T.	1	
27	023-12155-209	*Bracket ; Hinge Cover	1	
28	610-10009-005	*One-Way Hinge; OWNF6-1NRS	1	
29	612-10036-007	*Gear;M1x20x7	1	
29'	023-12254-100	*Shaft; Damper Hinge; P-F-T	1	
30	021-04011-104	*Adj. Seal; P.-F.-T	1	
31	635-17613-004	*Stepped Screw;6X1.8;M3X4	2	
32	023-12130-001	*Flexible Wire Cover; P.-F.-T.	1	

[illegible]

Fig5. Drive Mechanism Area (1)

6-1



I - 10

[illegible][illegible]

Fig6. Drive Mechanism Area (2)

I-11

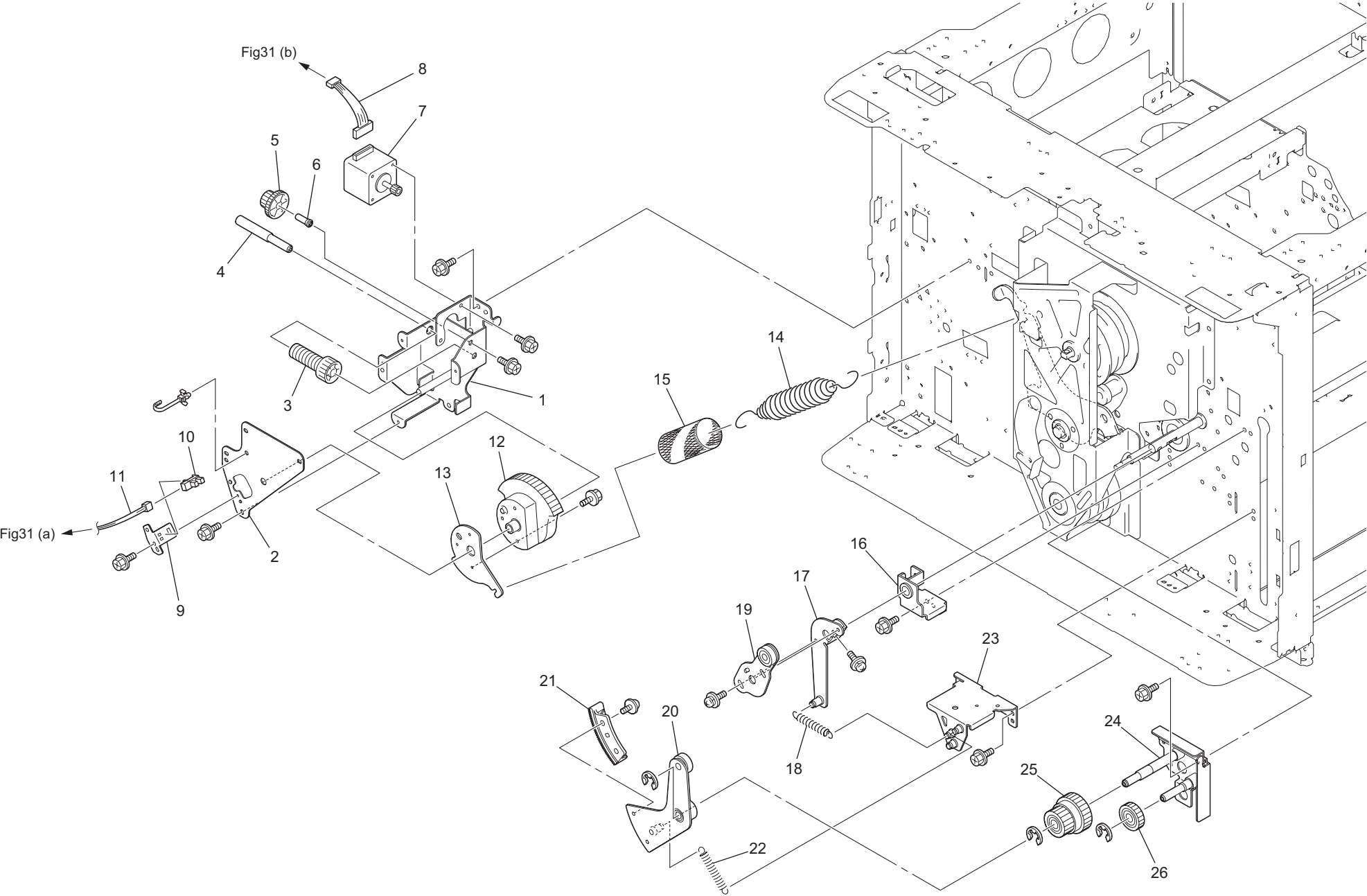
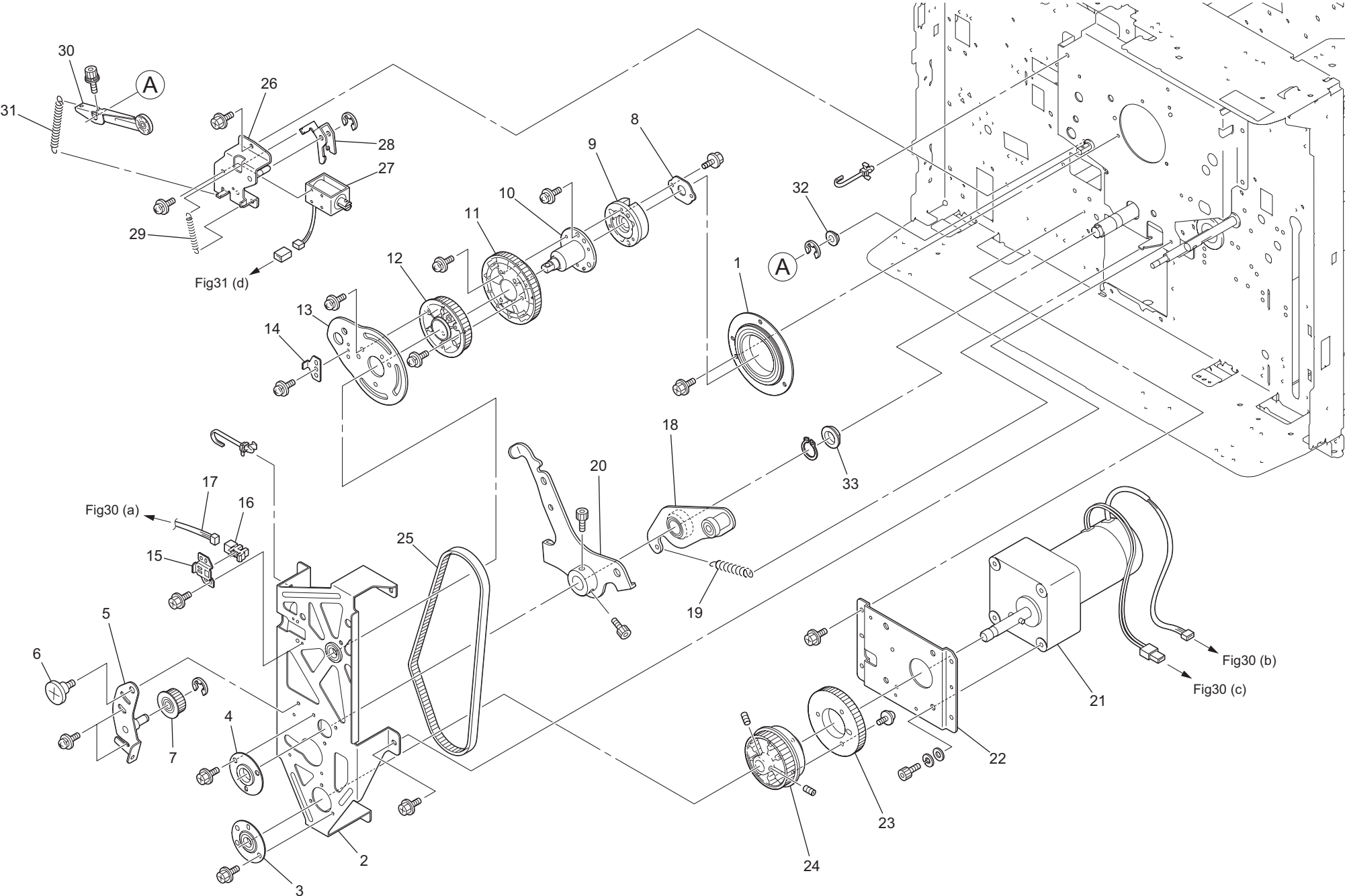


Fig6 Drive Mechanism Area(2)

[illegible][illegible]

Fig7. Drive Mechanism Area (3)

I - 13

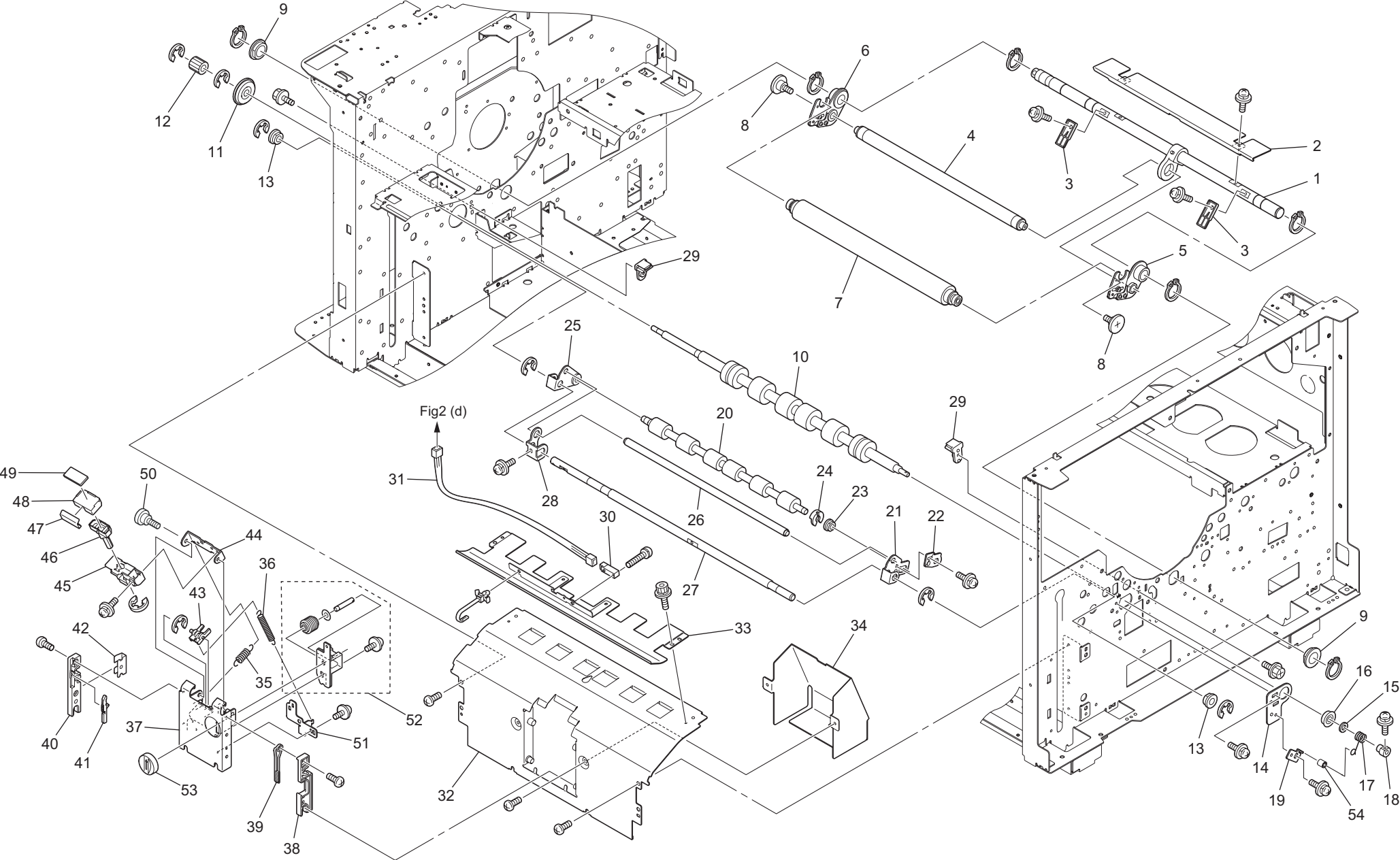


I - 14

[illegible]

Fig8. Roller System Area

I - 15



No.	Part No.	Part Name	Q'ty	Remark
1	023-19007-108	Pressure Shaft	1	
2	023-19013-108	Paper Guide; Pressure	1	
3	023-19012-004	Stopper; Pressure Roller	2	
4	023-19004-109	Support Shaft; Pressure	1	
5	023-75071-056	Pressure Roller Support; Front Ass'y	1	
6	023-75072-052	Pressure Roller Support; Rear Ass'y	1	
7	023-74068-000	Pressure Roller Ass'y; A3	1	39x, 37x, 59x, 57x
7	023-75120-057	Pressure Roller Ass'y; A4	1	31x, 30x, 51x, 50x
7	023-75119-059	Pressure Roller Ass'y; B4	1	33x
8	635-17613-004	Stepped Screw;6X1.8;M3X4	2	
9	607-10003-001	Metal;F16X22/19X6;26X2	2	
	023-75093-050	Timing Roller Assy(10-12)	1	
10	023-12501-000	*Timing Roller	1	
11	023-12503-002	*Bearing; Timing Roller	1	
12	612-02101-207	*Gear; M1X15X12	1	
13	607-16001-000	Metal;F10X15/14X6;18X2	2	
14	023-12507-105	Adj. Plate; Timing Roller	1	
15	639-00610-000	P Washer; 6X13.5X1	1	
16	601-10195-004	Bearing; Ddlf-1910ZZR	1	
17	030-14476-201	Load Spring	1	
18	023-12510-009	Collar; Load Spring	1	
19	030-14458-203	Fix Plate; Load Spring	1	
	023-75080-055	Guide Roller Assy(20-28)	1	
20	023-12511-005	*Guide Roller	1	
21	023-12515-000	*Support F; Guide Roller	1	
22	023-12545-007	*Adj. Plate; Guide Roller	1	
23	607-40001-003	*Metal;F8X11/10X5.5;14X2	1	
24	023-12519-006	*Lock Plate; Guide Roller	1	
25	023-12516-007	*Support R; Guide Roller	1	
26	023-12513-008	*Pressure Shaft; Guide Roller	1	
27	023-12512-001	*Shaft; Guide Roller	1	
28	023-12514-004	*Pressure Plate; Guide Roller	1	
29	023-12537-004	Stay Holder; Guide Plate	2	
	023-75079-057	Guide Plate Assy(30-33)	1	

[illegible]

Fig9. Drum Area (1)

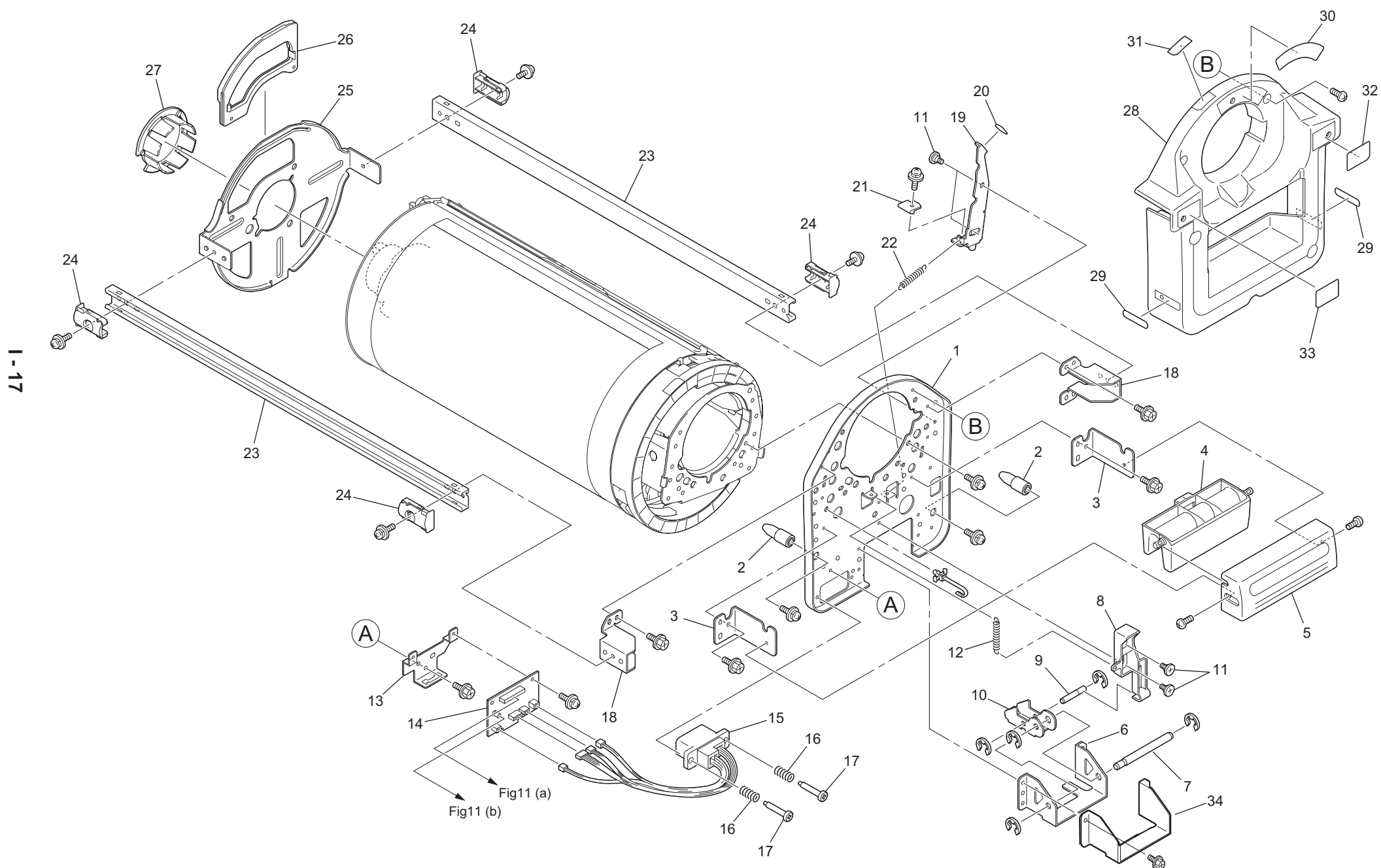


Fig9 Drum Area(1)

[illegible]

I - 18

Fig10. Drum Area (2)

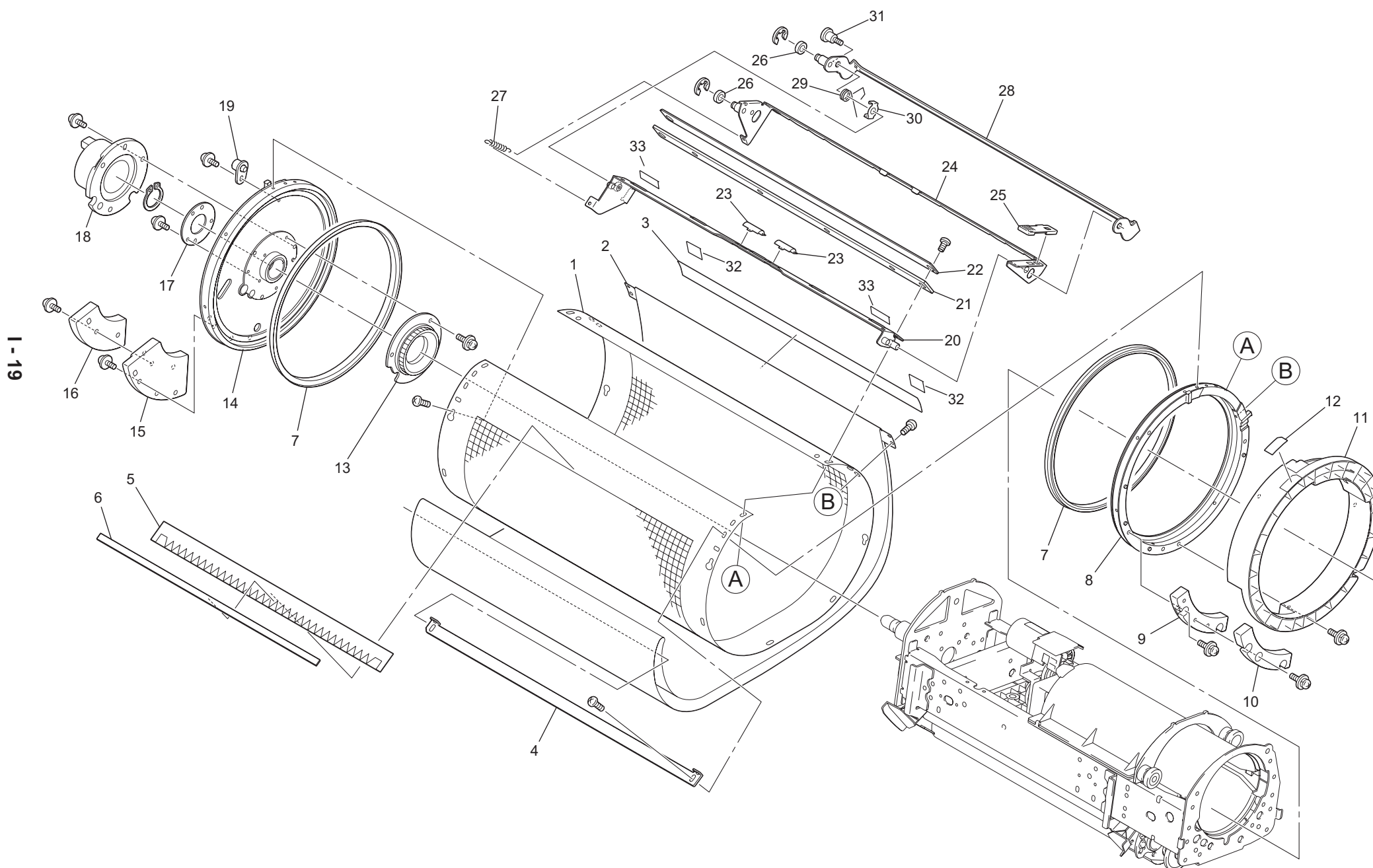


Fig10 Drum Area(2)

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1 - 20

Fig11. Drum Area (3)

I - 21

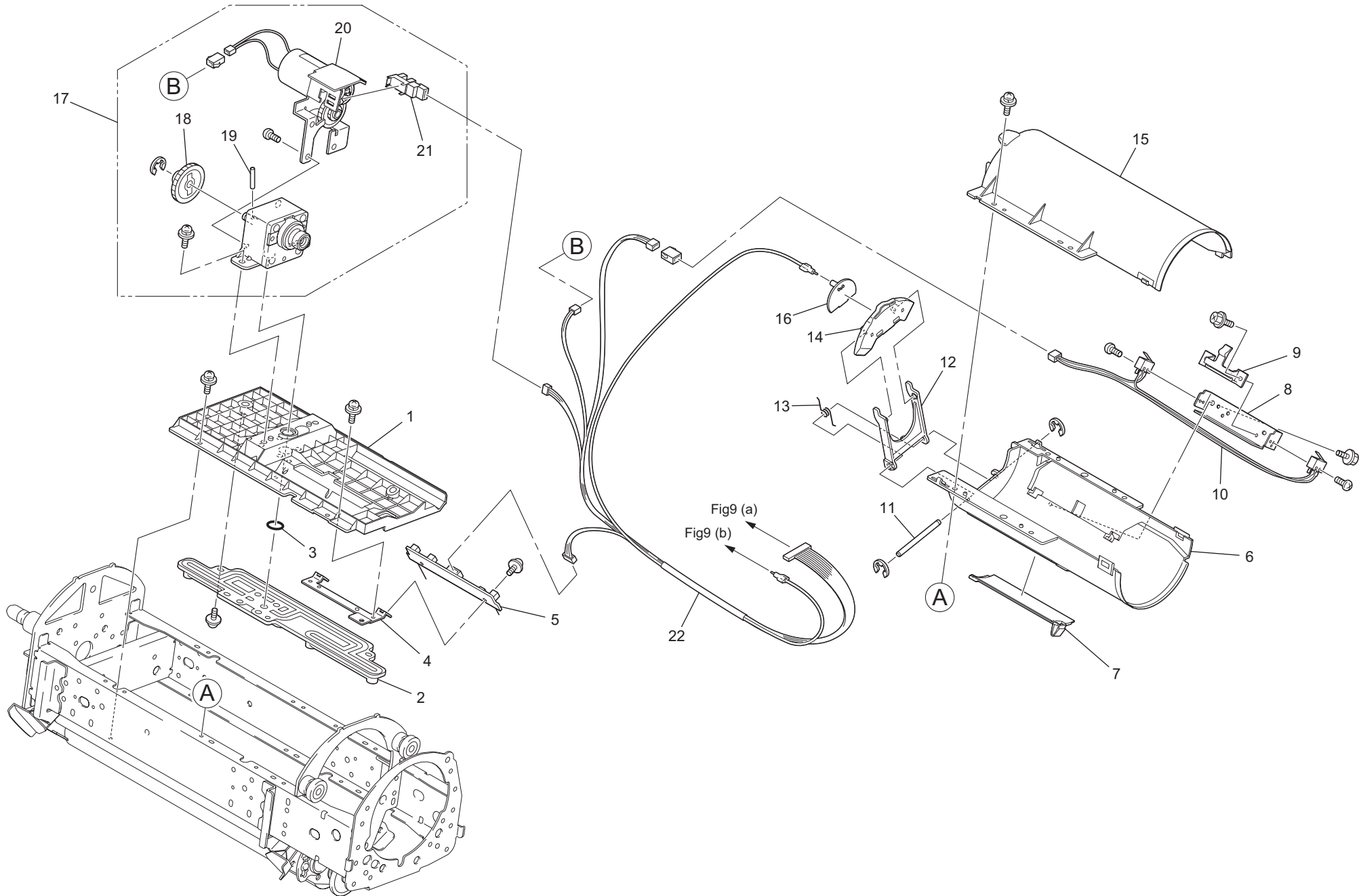


Fig11 Drum Area(3)

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I - 22

Fig12. Drum Area (4):RZ-59x,57x,39x,37x

I - 23

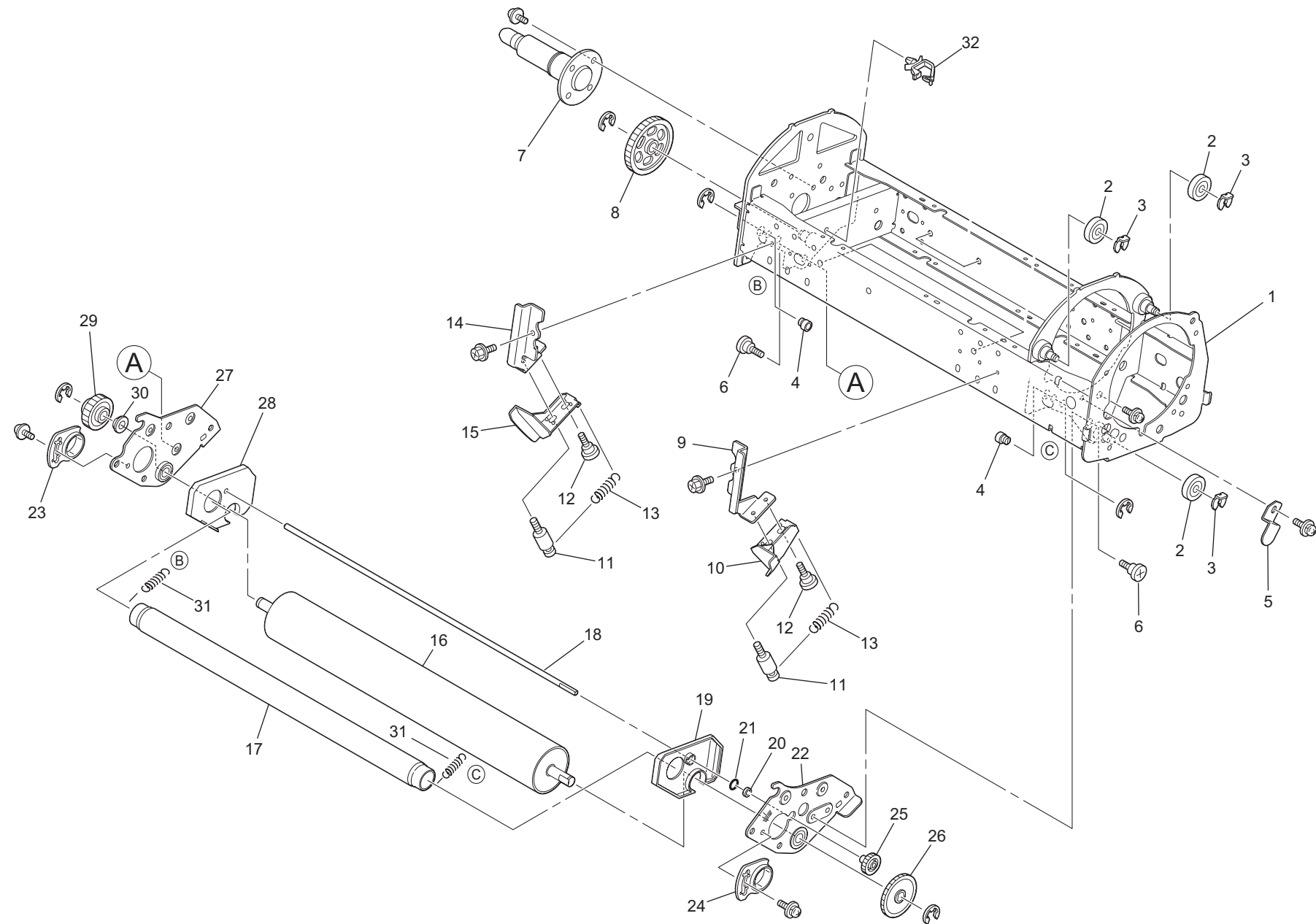


Fig12 Drum Area(4):RZ59x,57x, 39x, 37x

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I - 24

Fig13. Drum Area(4) RZ-51x,50x,33x,31x,30x

I - 25

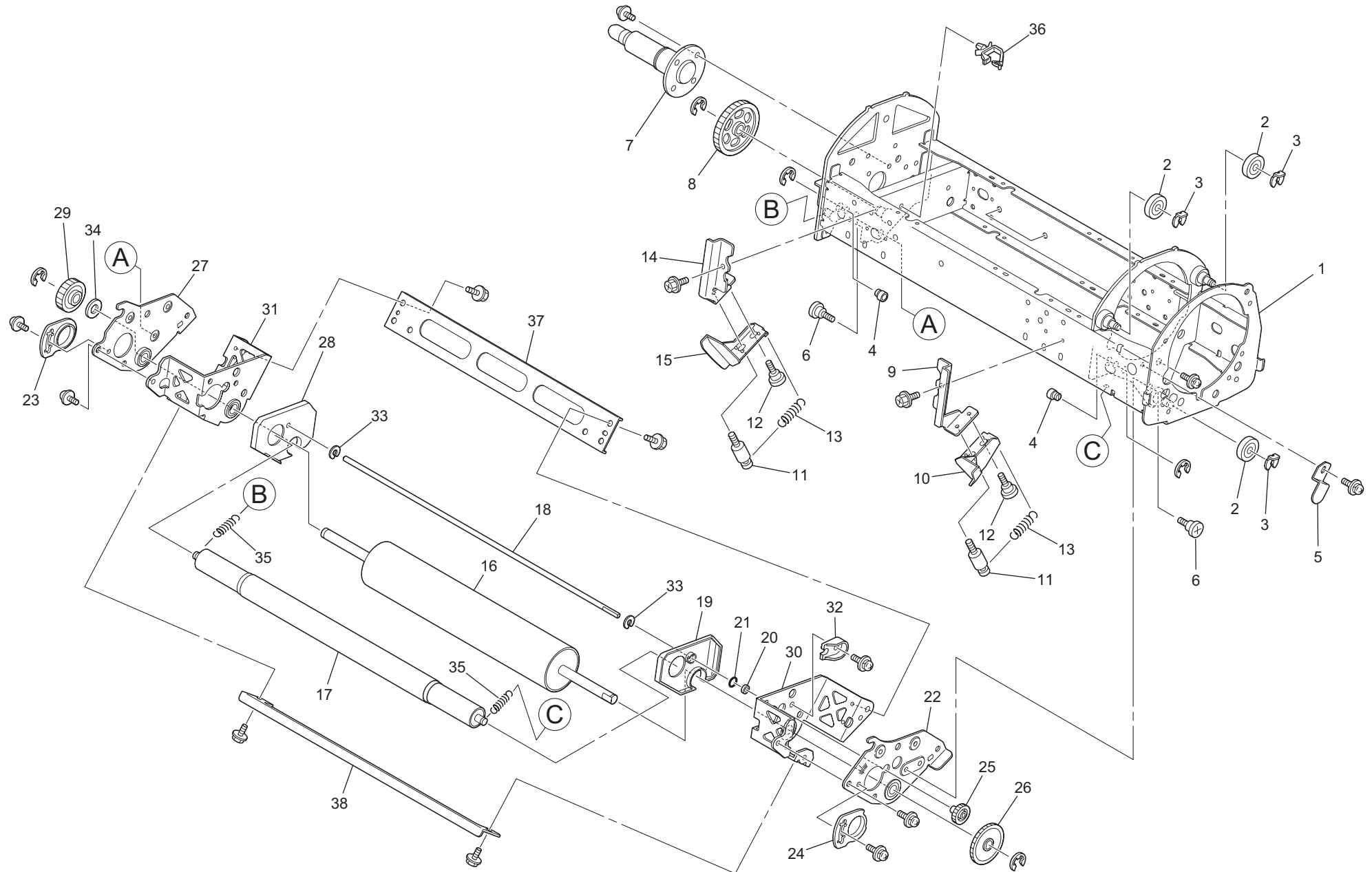


Fig13 Drum Area(4) RZ51x, 50x, 33x,31x, 30x

No.	Part No.	Part Name	Q'ty	Remark
1		Main Frame ; Drum	1	
2	023-17116-007	Flange Support Roller; Drum	3	
3	023-17197-007	Lock Ring 4	3	
4	023-17027-004	Cam; Squeegee Gap	2	
5	023-17246-008	Fixing Plate Drive ;A4	1	
6	635-17634-001	Stepped Screw;F6X3;M4X4	2	
7	023-17018-005	Center Shaft; Drum	1	
8	612-10026-001	Gear;M1X45X6	1	
9	023-17229-006	Base ; Ink Blocking Plate (Front)	1	
10	023-17227-003	Ink Blocking Plate; Front	1	
11	015-36317-100	Shaft Screw; Ink Blocking Plate	2	
12	635-17433-006	Step Screw	2	
13	015-36318-000	Spring; Ink Blocking Plate	2	
14	023-17228-000	Base ; Ink Blocking Plate (Rear)	1	
15	023-17226-007	Ink Blocking Plate; Rear	1	
	023-75092-053	Squeegee Unit;A4(16-34)	1	31x, 30x, 51x, 50x
16	023-17209-005	*Squeegee Roller ;A4	1	31x, 30x, 51x, 50x
17	023-17331-102	*Doctor Roller Assy ;A4	1	31x, 30x, 51x, 50x
18	023-17211-000	*Ink Drive Shaft ; A4	1	31x, 30x, 51x, 50x
19	023-17041-007	*Block F; Squeegee	1	
20	607-03001-001	*Metal;S4X7X2	1	
21	640-60040-000	*O Ring;P4-1.9	1	
22	023-17126-100	*Side Frame F;Squeegee	1	
23	023-17334-004	*Adj. Plate R; Squeegee Gap	1	
24	023-17336-007	*Adj. Plate L; Squeegee Gap	1	
25	612-10027-008	*Gear;M0.8X19X4	1	
26	612-10028-004	*Gear;M0.8X43X3	1	
27	023-17125-103	*Side Frame R;Squeegee	1	
28	023-17040-000	*Block R; Squeegee	1	
29	612-10024-009	*Gear; M1x25x7 OWC	1	
30	023-17213-304	*Support Bracket F ;A4	1	31x, 30x, 51x, 50x
31	023-17214-203	*Support Bracket R ;A4	1	31x, 30x, 51x, 50x
32	023-17242-002	*Plate; Metal; Drive Shaft; Drum	1	

No.	Part No.	Part Name	Q'ty	Remark
33	023-17341-000	*Collar ; Ink Drive Shaft	2	
34	639-00815-001	*Washer ; 8x16x1.5	1	
	023-75091-057	Squeegee Unit;B4(16-34)	1	33x
16	023-17230-004	*Squeegee Roller ; B4	1	33x
17	023-17330-106	*Doctor Roller; Assy ;B4	1	33x
18	023-17239-001	*Ink Drive Shaft ; B4	1	33x
19	023-17041-007	*Block F; Squeegee	1	
20	607-03001-001	*Metal;S4X7X2	1	
21	640-60040-000	*O Ring;P4-1.9	1	
22	023-17126-100	*Side Frame F;Squeegee	1	
23	023-17334-004	*Adj. Plate R; Squeegee Gap	1	
24	023-17336-007	*Adj. Plate L; Squeegee Gap	1	
25	612-10027-008	*Gear;M0.8X19X4	1	
26	612-10028-004	*Gear;M0.8X43X3	1	
27	023-17125-103	*Side Frame R;Squeegee	1	
28	023-17040-000	*Block R; Squeegee	1	
29	612-10024-009	*Gear; M1x25x7 OWC	1	
30	023-17235-308	*Support Bracket F ;B4	1	33x
31	023-17234-204	*Support Bracket R ;B4	1	33x
32	023-17242-002	*Plate; Metal; Drive Shaft; Drum	1	
33	023-17341-000	*Collar ; Ink Drive Shaft	2	
34	639-00815-001	*Washer ; 8x16x1.5	1	
35	023-17333-008	Spring ; Doctor Roller	2	
36	665-02044-002	Wire Saddle;LWS-0711	1	
37	023-17421-004	Support Plate A	1	
38	023-17422-000	Support Plate B	1	

Fig14. Drum-Rail Area

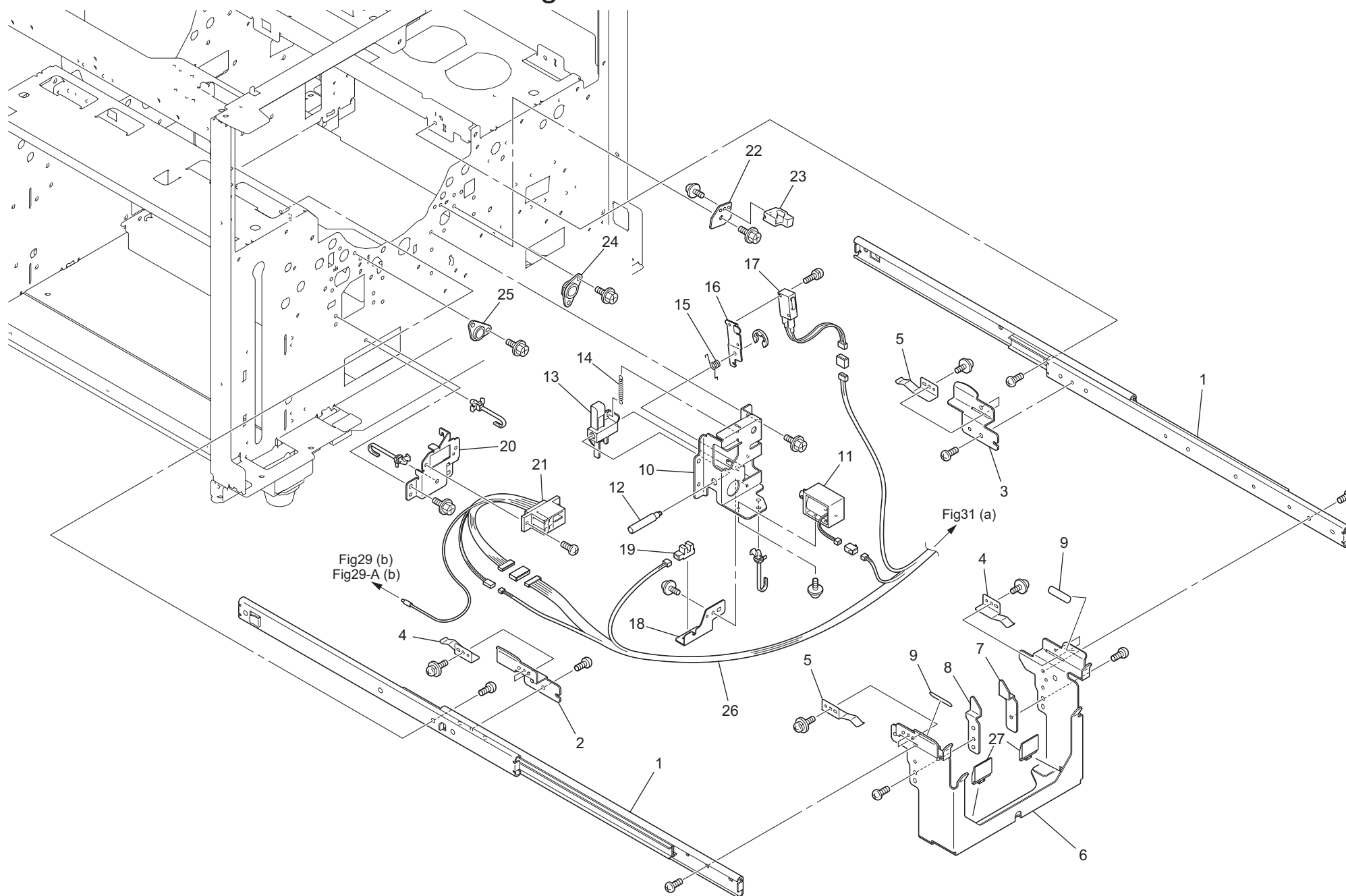
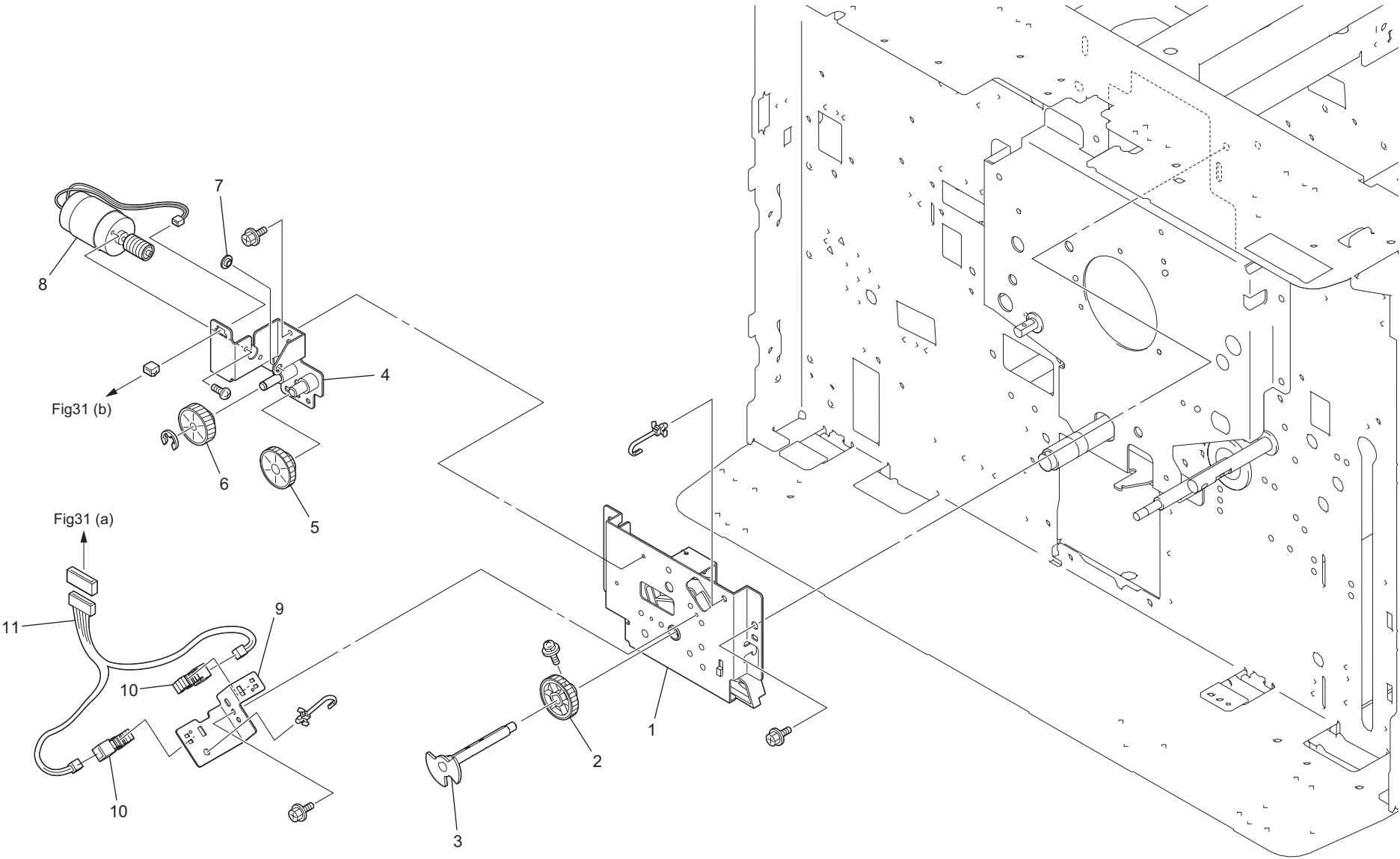


Fig14 Drum-Rail Area

[illegible][illegible]

1 - 28

Fig15. Clamp Area



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Fig16. Separator Area

I - 31

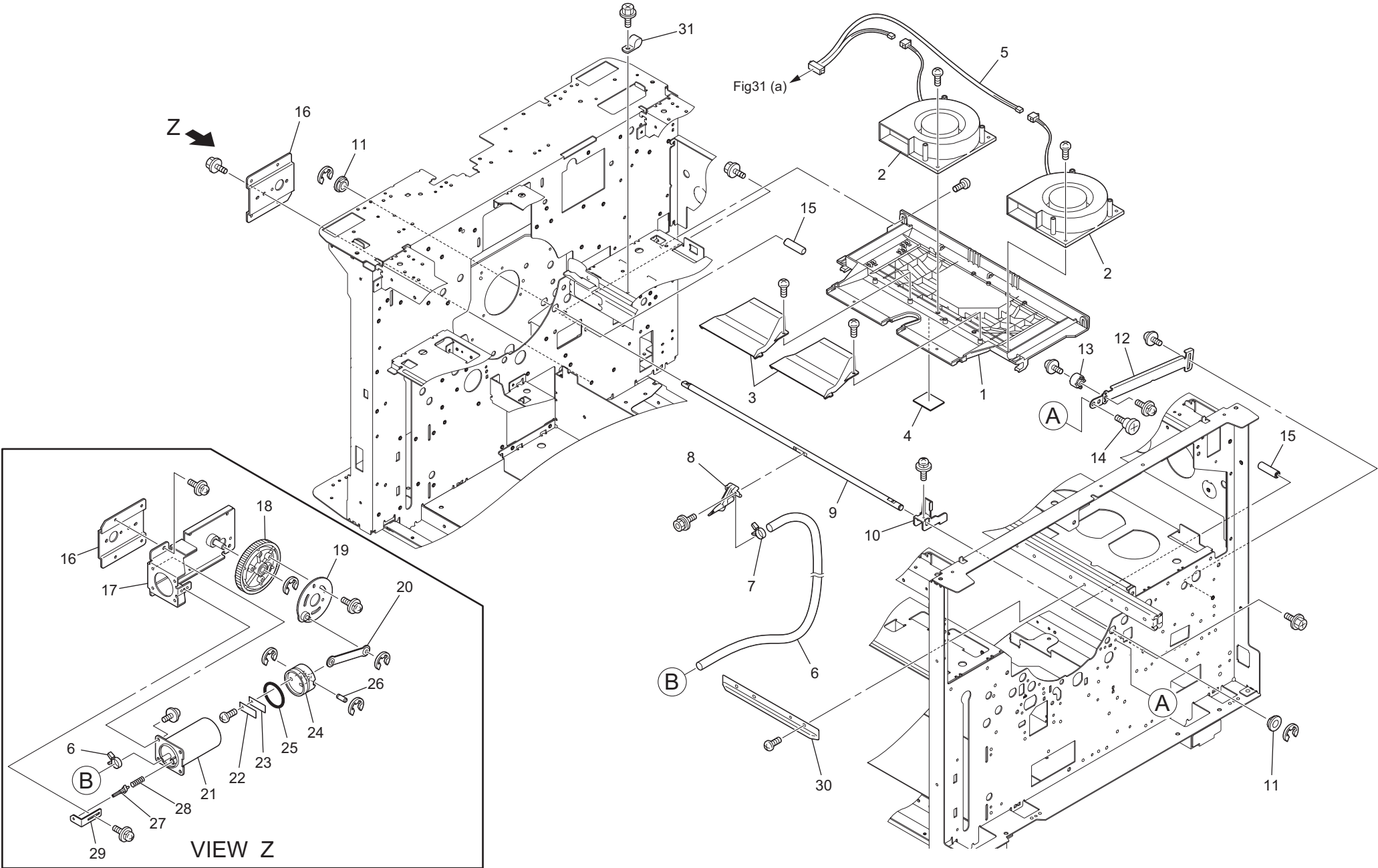


Fig16 Separation Area

No.	Part No.	Part Name	Q'ty	Remark
	023-75121-053	Separation Fan Assy(1-5)	1	
1	023-21017-102	*Base; Separation Fan	1	
2	490-41012-004	*Fan; BG1203-B054	2	
3	023-21018-001	*Air Nozzle	2	
4	023-21393-007	*light Absorber Strip(35X28)	1	
5	023-21702-000	*Wire Harness; Separation Fun	1	
6	023-21016-106	Air Hose; Separator	1	
7	665-02901-002	Power Band T10	2	
8	023-21002-008	Separator	1	
9	023-21006-003	Shaft; Separator	1	
10	023-21007-000	Release Lever; Separator	1	
11	607-15000-000	Metalf8X13/12X5;16X2	2	
12	023-21003-004	Adjustment Plate	1	
13	023-21005-007	Stopper; Separator	1	
14	635-17614-108	Stepped Screw;6X1.7;M4X4	1	
15	020-13114-105	Fixing Pin	2	
16	023-21027-000	Spacer; Cylinder Base; Air Pump	1	
	023-75077-054	Air Pump Assy(17-29)	1	
17	023-21013-204	*Cylinder Base Bracket; Air pump	1	
18	612-03106-008	*Gear;M1X80X10	1	
19	023-21023-102	*Timing Plate; Air Pump	1	
20	019-13511-103	*Arm;Air Pump	1	
21	023-21021-002	*Cylinder; Air Pump	1	
22	019-13517-004	*Cylinder Valve II ; Air Pump	1	
23	019-13518-000	*Cylinder Valve Sheet ; Air Pump	1	
24	019-13516-105	*Piston Head II;Air Pump	1	
25	640-67340-009	*O Ring;34-3.6	1	
26	019-13512-002	*Arm Shaft;Air Pump	1	
27	023-21011-104	*Adj. Valve; Air blow	1	
28	023-21010-000	*Spring; Adj. Valve; Air Blow	1	
29	023-21009-002	*Adj. Plate; Air blow	1	
30	023-21001-001	Release Plate	1	
31	665-02021-606	Clip; NK-7N Nikko Nylon ClIp	1	

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1-32

Fig17. Suction Area -RZ3 series

I - 33

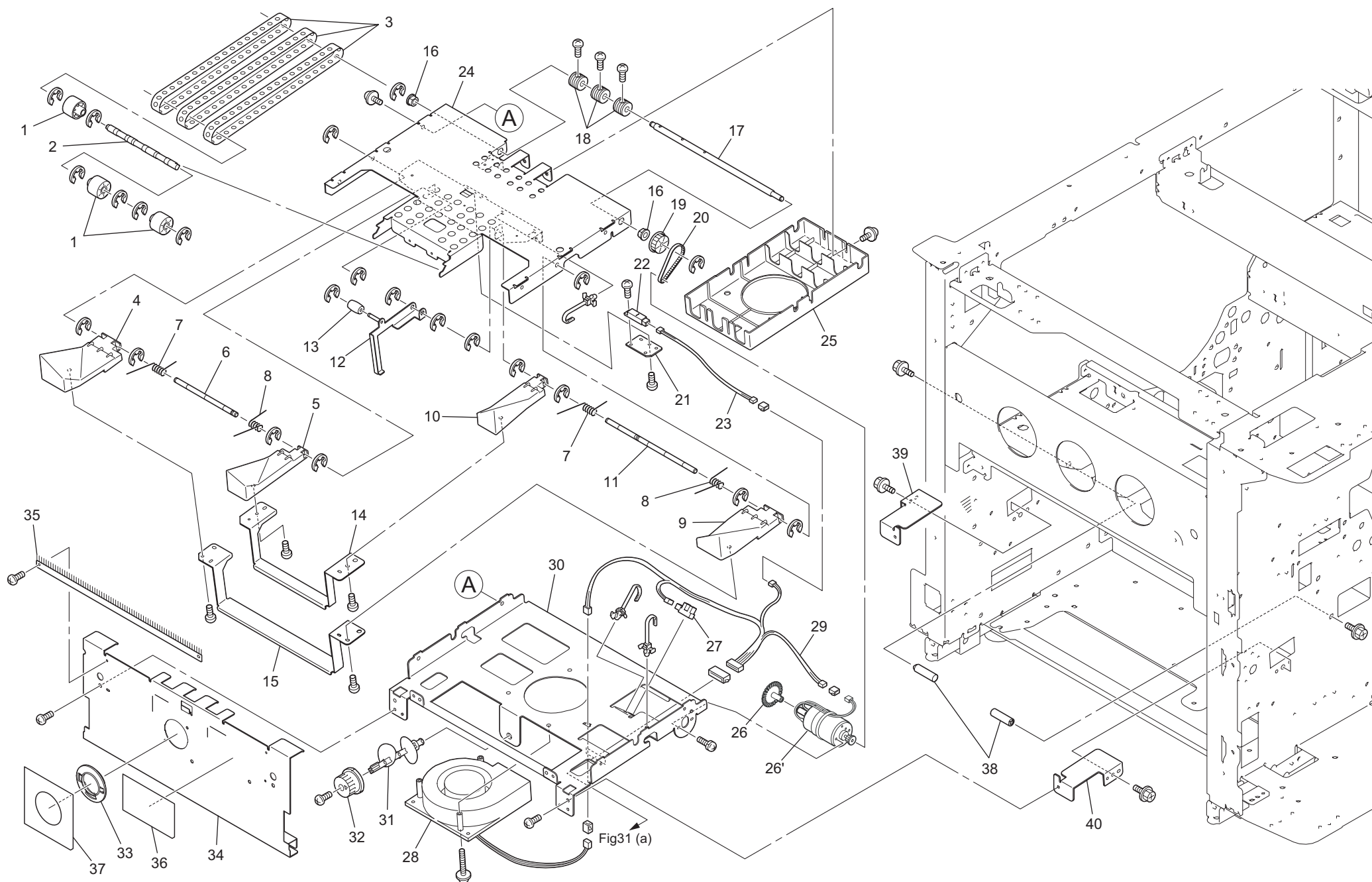
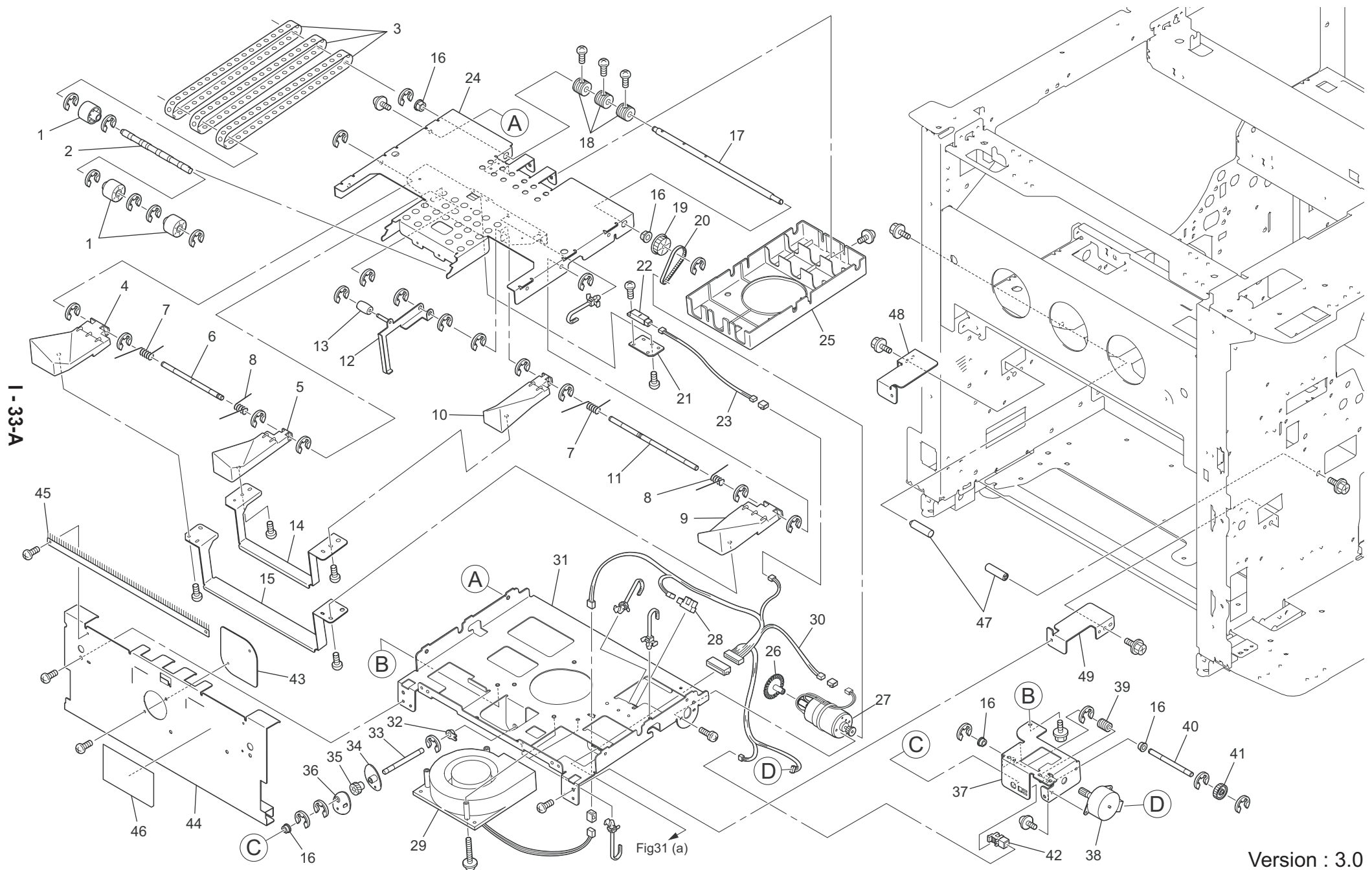


Fig17.Suction Area RZ3 series

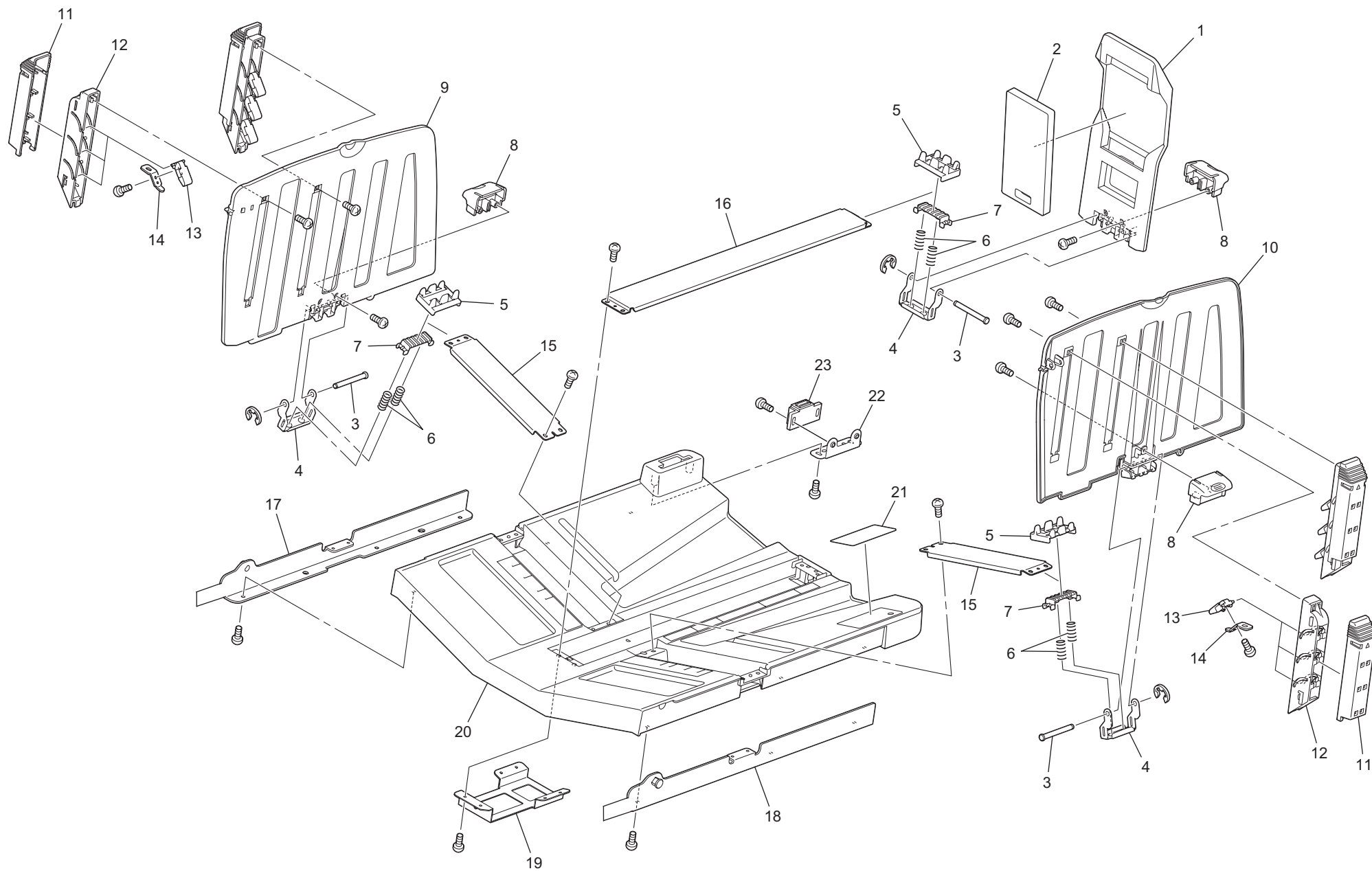
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I - 34



No.	Part No.	Part Name	Q'ty	Remark
	023-75086-053	Suction Unit; RZ5; ML SU(1-32)	1	5xx
1	020-13116-205	*P.-E. Pulley; Suction	3	
2	023-21361-008	*Shaft; Belt Driven Pulley	1	
3	629-00002-004	*Flat Belt; 15X0.65X519	3	
4	023-21322-002	*M Wing Front	1	
5	023-21324-005	*S Wing; Front	1	
6	023-21335-007	*Shaft; Wing Front	1	
7	023-21328-000	*Spring; Wing Front	2	
8	023-21332-008	*Spring; Wing Rear	2	
9	023-21321-006	*M Wing Rear	1	
10	023-21323-009	*S Wing; Rear	1	
11	023-21325-001	*Shaft; Wing Rear	1	
12	023-21371-003	*Roller Plate; Transfer Belt	1	
13	017-13216-000	*Belt Roller;Suction	1	
14	023-21329-104	*link Plate; S Wing	1	
15	023-21331-001	*link Plate; M Wing	1	
16	607-13000-402	*Metal;F6X10/9X6:12 X 1.5	5	
17	023-21351-100	*Drive Shaft; Suction	1	
18	030-15249-004	*Roller (Inner); Transfer Belt	3	
19	611-90002-003	*Pulley;P40S2M60	1	
20	621-00003-002	*Belt; 40-S2M-138	1	
21	023-21401-000	*Bracket; Paper Receiving sensor	1	
22	444-33000-002	*GP2A200LCS	1	
23	023-21703-006	*Wire Harness; Ejection Sensor	1	
24	023-21304-004	*Face Cover; Suction	1	
25	023-21302-001	*Suction Box; Suction	1	
26	023-21342-003	*Metal Slit; Motor	1	
27	490-20005-008	*Motor; CCWRS-555PH-24100	1	
28	444-33000-002	*GP2A200LCS	1	
29	490-41009-003	*Fan; D12F-24PLH1C10	1	
30	023-21707-001	*Wire Harness; Suction unit RZ5	1	5xx
31	023-21312-309	*Base Frame;Suction	1	
32	023-21406-001	*Boss; Wing cam shaft; F6x9x6:12x1.5	1	5xx
33	023-21410-009	*W cam shaft; Wing	1	5xx

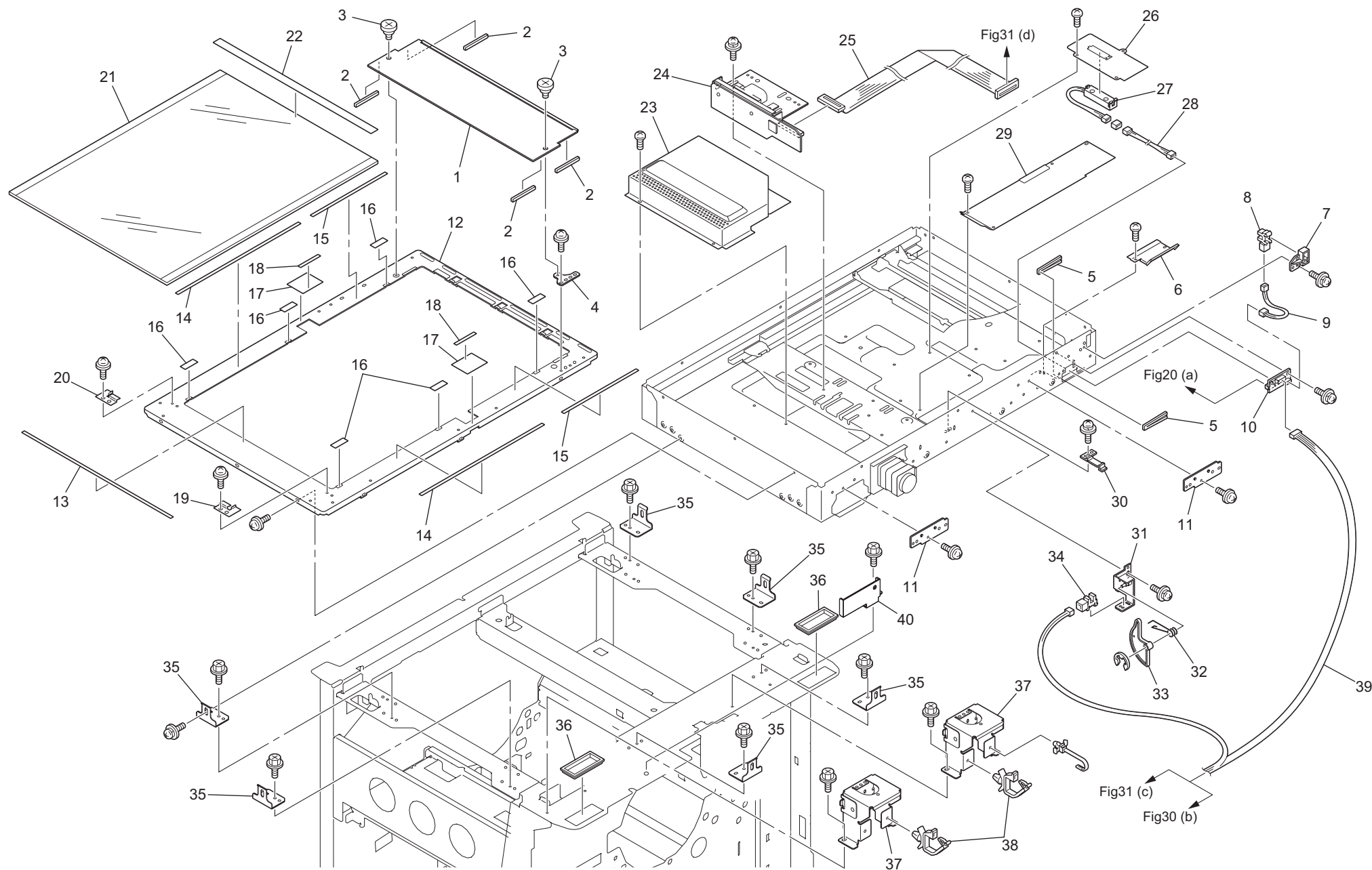
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Fig19. Scanner Area (1)



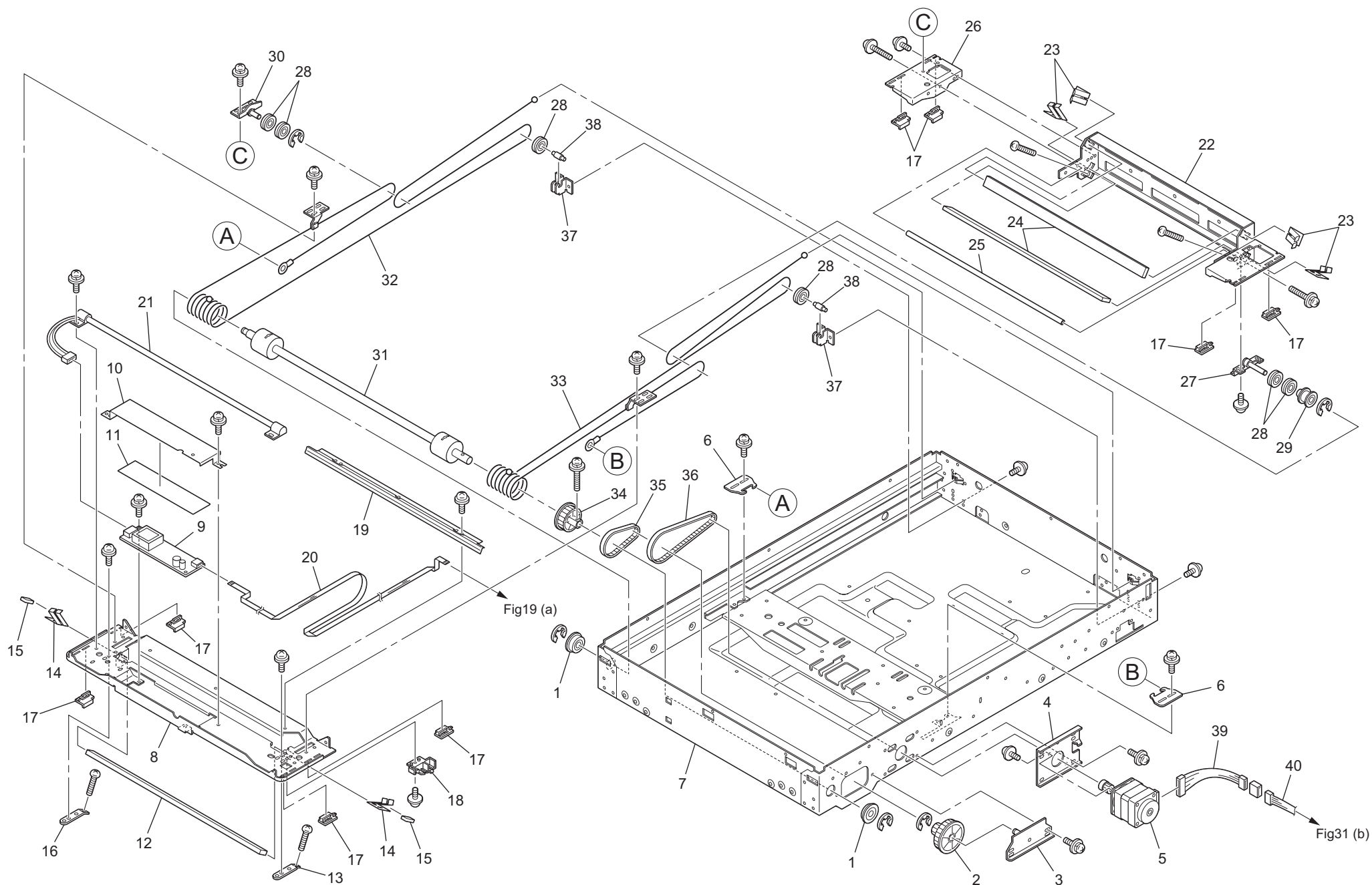
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Fig20. Scanner Area (2)

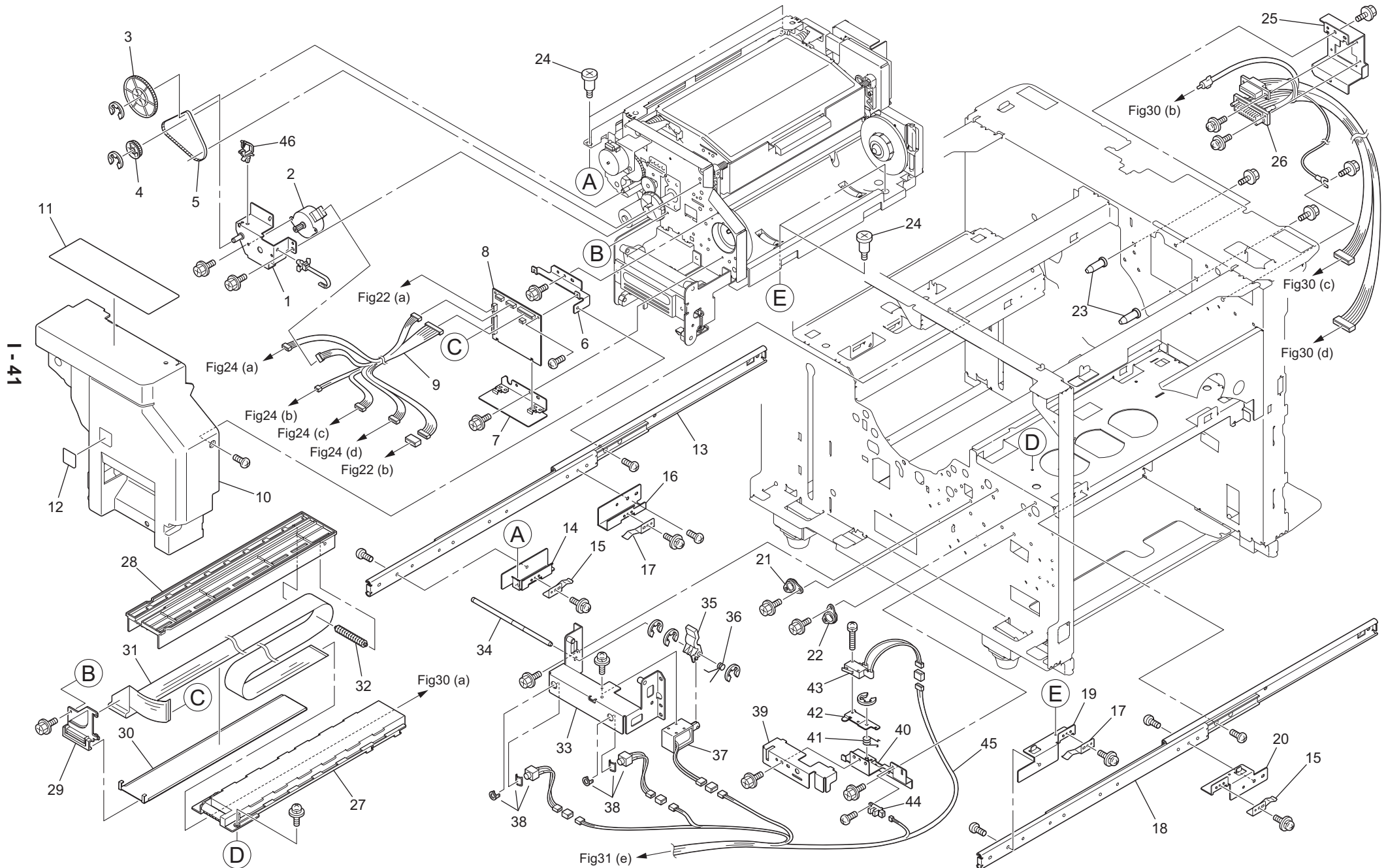
I - 39



No.	Part No.	Part Name	Q'ty	Remark
1	021-17511-009	*Plastic Bearing; Gsf-081605	2	
2	021-17575-007	*Pulley; Ply-S1.5M-90-30	1	
3	021-17505-106	*Bracket; K-BKT-M; Scanner	1	
4	021-17541-005	*Bracket; FB Pulse Motor; BKT-MOT	1	
5	021-53201-008	*Motor;Kh42Jm2B154	1	
6	021-17557-009	*Bracket; BKT-WIRE-HOLD	2	
7	021-17501-003	*Frame; Assy-Frame-Lower	1	
8	021-17554-000	*Frame; Carriage 1; Frm-Cr1	1	
9	021-50536-009	*Inverter;Pws-Pxz170E4-B	1	
10	021-17558-005	*Cover; Inverter; CVR-INV	1	
11	021-17518-003	*Mylar; Inverter; Mlr-Inv	1	
12	021-17509-004	*Mirror; Carriage 1; Mir-1	1	
13	021-17555-006	*Adj. Bracket Rear; BKT-ADJ-CR1	1	
14	021-17528-009	*Plate Spring; Mirror 1; Spr-Mir-1	2	
15	021-17589-008	*Sponge; Mirror 1; Spng-Mir	2	
16	021-17559-001	*Adj. Bracket Front; BKT-ADJ-CR1-F	1	
17	021-17564-005	*Slide Guide; Slide-Bush; Carriage	8	
18	021-17570-005	*Guide Bracket; Guide-Ffc-Cr1	1	
19	021-17556-002	*Reflector	1	
20	021-51120-000	*Wire Harness;Assy-Ffc	1	
21	021-53143-008	*Lamp;Uxfl-08Yg37P2	1	
22	021-17560-000	*Frame; Carriage 2; Frm-Cr2	1	
23	021-17529-005	*Plate Spring; Spr-Mir-2	4	
24	021-17581-007	*Mirror 2; Carriage 2	2	
25	021-17523-007	*Support Shaft; Sft-Cr2; Carriage 2	1	
26	021-17561-006	*Bracket F; BKT-SLIDE-CR2-F	1	
27	021-17506-005	*Bracket Rear; Pulley; K-DV-R	1	
28	021-17582-003	*Pulley; Dv-19-H5-W0.25	6	
29	021-17565-001	*Guide Pulley; Ply-Turn	1	
30	021-17562-100	*Bracket Front;Pulley; BKT-DV-CR2-F	1	
31	021-17521-004	*Pulley Drive Shaft; Ply-Drive	1	
32	021-17507-001	*Wire Front; Wr-7X7-S-F	1	
33	021-17508-008	*Wire Rear; Wr-7X7-Z-R	1	
34	021-17574-000	*Pulley; Plv-S1.5M-75	1	

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Fig21. Master-Making Area (1)



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Fig22. Master-Making Area (2)

I - 43

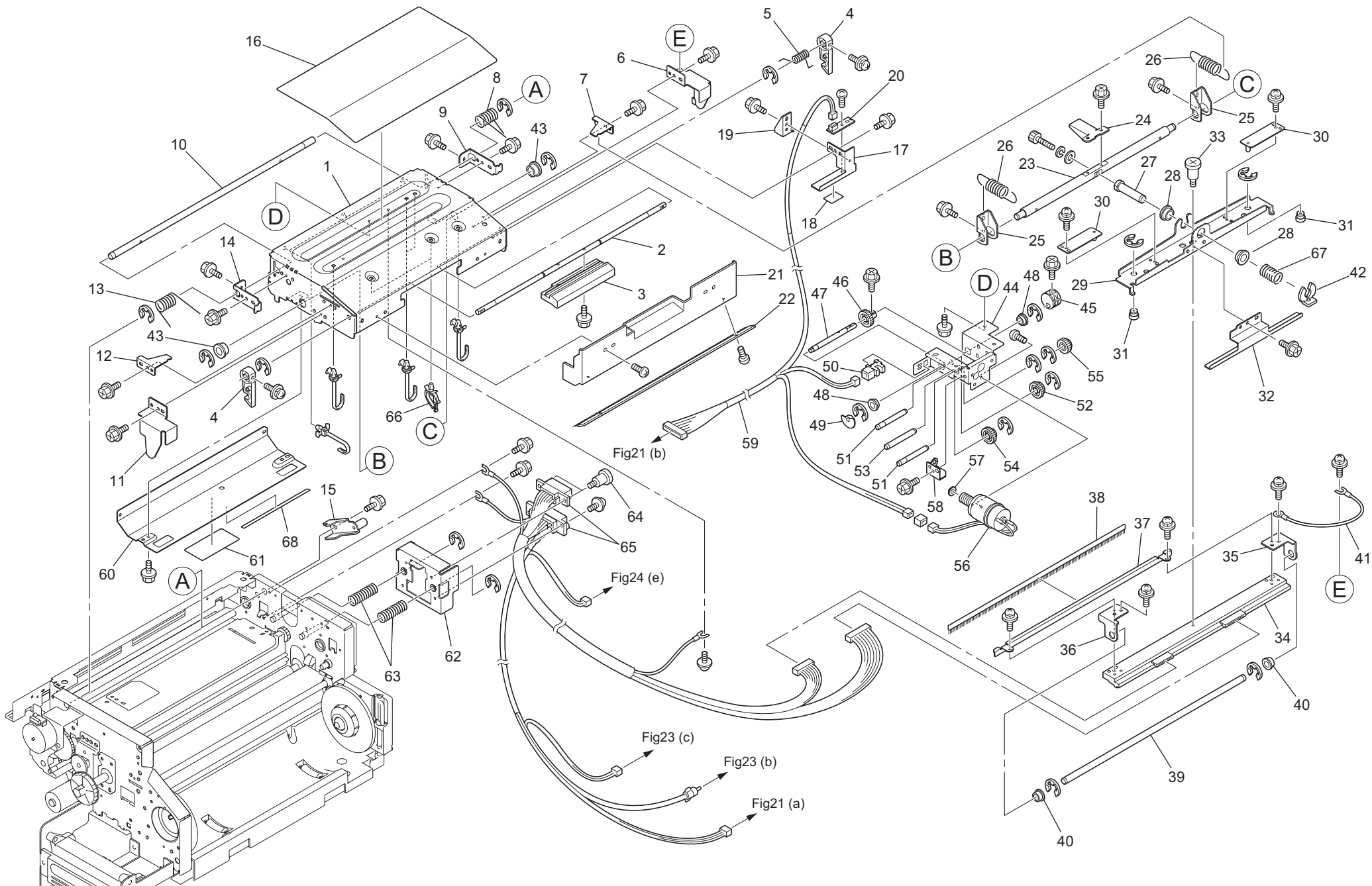


Fig22 Master Making Area(2)

No.	Part No.	Part Name	Q'ty	Remark
1	023-28150-207	*Frame; M-M Upper Unit	1	
2	023-28157-007	*Shaft; Handle; M-M Up	1	
3	023-28236-004	*Hook Lever; M.-M Up	1	
4	023-28237-000	*Hook; M.-M Up	2	
5	023-28356-000	*Hook Spring; M.-M Up	1	
6	023-28253-103	*Pushing Plate R; Set-Guide Plate	1	
7	023-28152-005	*Spring Hook Bracket Rear; TPH Pressure	1	
8	023-28156-000	*Spring Rear; M.-M Up	1	
9	023-28252-107	*Pivot Support Plate Rear; M.-M Up	1	
10	023-28154-105	*Shaft; M.-M Upper Unit	1	
11	023-28215-201	*Pushing Plate F; Set-Guide Plate	1	
12	023-28381-004	*Bracket Front; TPH Pressure spring	1	
13	023-28155-004	*Spring Front; M.-M Up	1	
14	023-28151-106	*Pivot Support Plate Front; M.-M Up	1	
15	023-28177-105	*Safety Stopper; M.-M Up	1	
16	023-28426-105	*Seal; Master Making Unit	1	
17	023-28418-005	*Upper Bracket A3; Master End Sensor	1	39x, 37x, 59x, 57x
17	023-28420-000	*Upper Bracket A4; Master End Sensor	1	31x, 30x, 51x, 50x
17	023-28419-001	*Upper Bracket B4; Master End Sensor	1	33x
18	023-28431-001	*light Absorber Strip(21X15)	1	
19	023-28427-004	*Cover; Master End Sensor	1	
20	444-42030-305	*Sensor (Rcv); KH0854-01	1	
21	023-28162-000	*Bottom Cover; TPH; M.-M.	1	
22	023-28410-004	*De-Electricity Brush ; A3	1	
23	023-28158-100	*Pivot Shaft; TPH	1	
24	023-28160-008	*Pressure Release Plate; TPH Press	1	
25	023-28159-301	*Pressure Lever Bracket; M.-M Up	2	
26	023-28161-004	*TPH Pressure Spring 40	2	39x, 37x, 59x, 57x
26	023-28344-001	*TPH Pressure Spring 23	2	31x, 30x, 51x, 50x
26	023-28441-007	*TPH Pressure Spring 30	2	33x
27	023-28173-100	*TPH Alignment Shaft	1	
28	607-16008-003	*Metal;F10X14x10;18X2	2	
	023-75073-059	*TPH Assy A3(29-41)	1	39x, 37x, 59x, 57x
	023-75075-051	*TPH Assy B4(29-41)	1	31x, 30x, 33x, 51x, 50x

No.	Part No.	Part Name	Q'ty	Remark
29	023-28174-300	**TPH holder; TA3	1	39x, 37x, 59x, 57x
29	023-28297-402	**TPH holder; TB4	1	31x, 30x, 33x, 51x, 50x
30	023-28413-003	**TPH Pressure Assist Plate; A3	2	39x, 37x, 59x, 57x
30	023-28387-002	**TPH Pressure Assist Plate; B4	2	31x, 30x, 33x, 51x, 50x
31	023-28412-104	**TPH Boss	2	
32	023-28315-001	**Protection Plate; TPH connector TA3	1	
33	635-10005-009	**Stepped Screw;F6x7.2;M3x4	1	
34	444-80001-106	**TPH 303R11	1	39x, 37x, 59x, 57x
34	444-80002-102	**TPH260R39	1	31x, 30x, 33x, 51x, 50x
35	023-28021-008	**Plate T-Rear; TPH	1	
36	023-28022-004	**Plate T-Front; TPH	1	
37	023-28175-005	**Bracket ; TPH Brush; TA3	1	39x, 37x, 59x, 57x
37	023-28298-000	**Bracket; TPH Brush; TB4	1	31x, 30x, 33x, 51x, 50x
38	023-28411-000	**De-electricity Brush; TPH A3	1	39x, 37x, 59x, 57x
38	023-28414-000	**De-electricity Brush; TPH B4	1	31x, 30x, 33x, 51x, 50x
39	023-28024-007	**Holding roller; TA3	1	39x, 37x, 59x, 57x
39	023-28299-006	**Holding roller; TB4	1	31x, 30x, 33x, 51x, 50x
40	607-10005-004	**Metal;F8x10x3;11.2x0.6	2	
41	488-90030-109	**Ground Wire; U3-55-R3	1	
42	019-11812-106	*Lock Ring	1	
43	607-15007-005	*Metal;F8X12X7;16X1.5	2	
44	023-28168-009	*Bracket; TPH pressure motor	1	
45	023-28165-000	*Cam; TPH Pressure	1	
46	612-10010-008	*Gear;M1X20X6	1	
47	023-28166-006	*Shaft; TPH Pressure Cam	1	
48	607-13000-402	*Metal;F6X10/9X6:12 X 1.5	2	
49	023-28361-003	*Pressure Detection Plate; TPH	1	
50	444-30008-002	*Sensor; LG-248NI1	1	
51	023-28213-004	*Shaft; Gear; TPH lift Motor	2	
52	612-80006-008	*Gear;M0.8X25+M0.8X14	1	
53	023-28433-004	*Shaft; Gear 8; TPH lift Motor	1	
54	612-80007-004	*Gear;M0.8X25+M1X14	1	
55	612-80008-000	*Gear; M0.8X20+M0.8X14	1	
56	023-74001-046	*Motor Assy (CWRS-445PA)	1	

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Fig23. Master-Making Area (3)

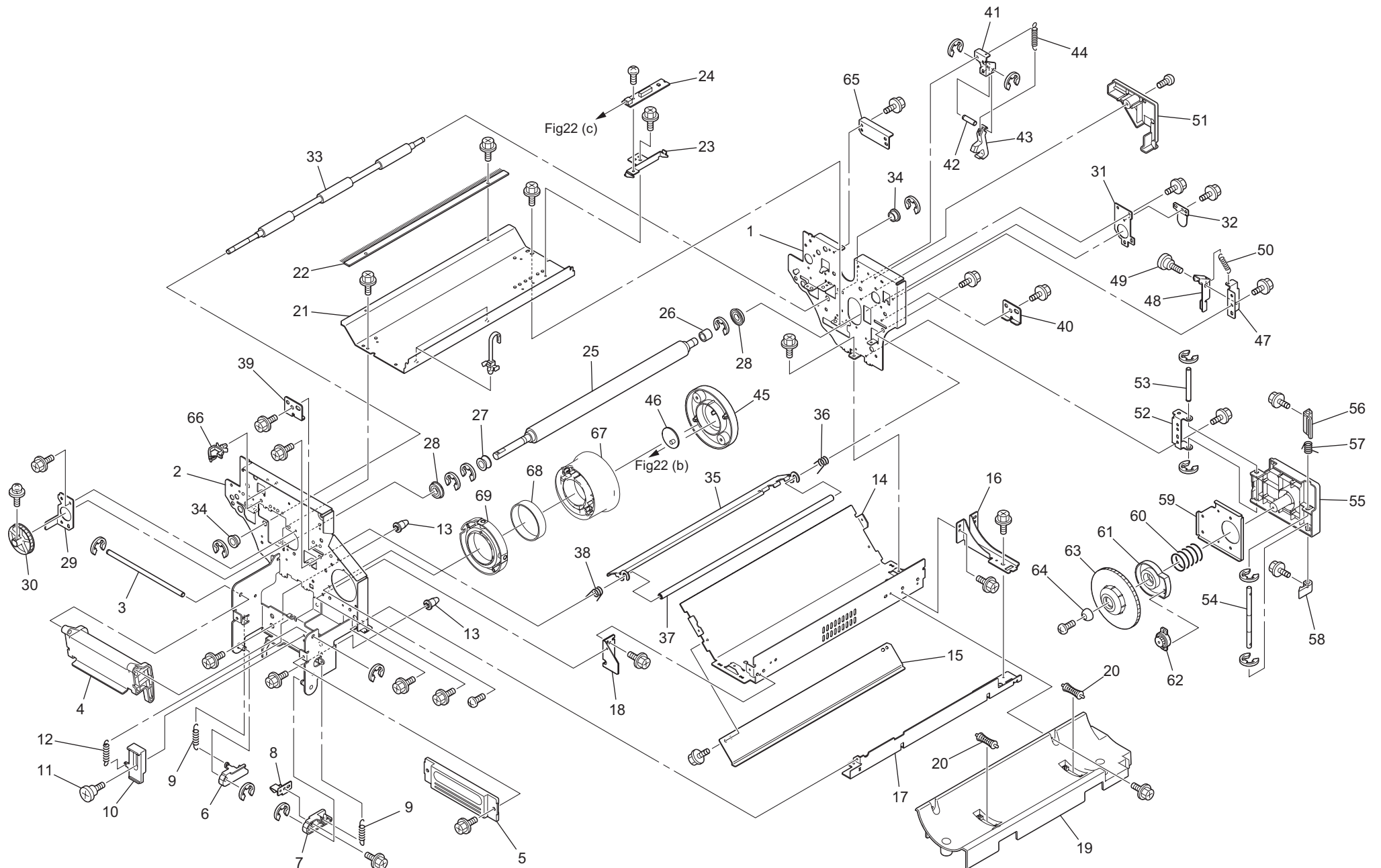


Fig23 Master Making Area(3)

No.	Part No.	Part Name	Q'ty	Remark
1	023-28092-207	*Rear Frame; M.-M Unit	1	
2		*Front Frame; M.-M Unit Assy	1	
3	023-28338-001	*Shaft; Handle; M-M	1	
4	023-28070-009	*Handle; M.-M.	1	
5	023-28343-005	*Guide; Handle; M.-M.	1	
6	023-28206-105	*Hook Left; Handle; M.-M.	1	
7	023-28071-102	*Hook Right; Handle; M.-M.	1	
8	023-28207-004	*Actuator plate; M.-M. Set Sensor	1	
9	023-28072-001	*Spring; Hook; M-M	2	
10	023-28336-009	*Handle Stopper; M.-M.	1	
11	635-17423-000	*Stepped Screw;F4X2.2;M3X4	2	
12	023-28209-007	*Spring; Handle; M-M	1	
13	023-28082-007	*Positioning Pin; Front; M.-M	2	
14	023-28013-200	*Bottom Stay; M.-M Unit	1	
15	023-28251-003	*Slide Guide 2; M.-M.	1	
16	023-28074-101	*Reinforcement Plate; M.-M. Frame	1	
17	023-28073-008	*Lower Stay; M.-Making	1	
18	023-28245-003	*Reinforce Plate; Lower; M.-M. Unit	1	
19	023-28124-109	*Master Roll Holder; Bottom	1	
20	023-28210-005	*Master Guide Roller	2	
21	023-28015-008	*Box Stay; M.-Making	1	
22	014-15011-004	*De-Electricity Bar ; M.-M.; A3	1	
23	023-28417-009	*Lower Bracket; Master End Sensor	1	
24	444-42029-200	*Sensor (Send); KH0854-00	1	
	023-75114-057	*Write Roller Assy A3(25-27)	1	39x, 37x, 59x, 57x
	023-75116-050	*Write Roller Assy B4(25-27)	1	31x, 30x, 33x, 51x, 50x
25	023-28037-109	**Write Roller; D23-A3	1	39x, 37x, 59x, 57x
25	023-28303-100	**Write Roller; D23-B4	1	31x, 30x, 33x, 51x, 50x
26	019-35025-008	**liner	1	
27	023-28432-105	**Write Roller liner 3	1	
28	601-10228-000	*Bearing;6900ZZNR	2	
29	023-28342-106	*Bracket Front; Write Roller	1	
30	611-90012-009	*Pulley; P70-2Gt-5	1	
31	023-28341-002	*Bracket Rear; Write Roller	1	

No.	Part No.	Part Name	Q'ty	Remark
32	023-28380-008	*Pressure Plate; Write Roller	1	
33	023-28045-004	*Stocker Roller; A3	1	39x, 37x, 59x, 57x
33	023-28271-004	*Stocker Roller; B4	1	31x, 30x, 33x, 51x, 50x
34	607-10006-000	*Metal;F6X8X4;10X1	2	
35	023-28114-103	*M Set Guide Plate B; A3	1	39x, 37x, 59x, 57x
35	023-28302-104	*M Set Guide Plate B; A4	1	31x, 30x, 51x, 50x
35	023-28259-101	*M Set Guide Plate B; B4		33x
36	023-28228-109	*Spring B Rear; M Set Guide Plate	1	
37	023-28036-102	*Shaft; M Set Guide Plate	1	
38	023-28115-100	*Spring B Front; M Set Guide Plate	1	
39	023-28229-105	*Stopper Front; M.-M Unit	1	
40	023-28247-103	*Stopper Rear; M.-M Unit	1	
41	023-28396-001	*Bracket; Stopper; M Set Guide Plate	1	
42	023-28397-008	*Shaft; Stopper; M Set Guide Plate	1	
43	023-28398-004	*Stopper; M Set Guide Plate	1	
44	023-28399-000	*Stopper Spring; M Set Guide Plate	1	
45	023-28006-106	*Master Flange; Front	1	
46	444-59006-106	*RF-Tag Reader; Master	1	
47	023-28232-009	*Base Bracket; Stopper; M.-M. Close	1	
48	023-28231-002	*Stopper; M.-M. Close	1	
49	635-17613-101	*Step Screw; D6X1.5; M3X4.5	1	
50	023-28233-005	*Stopper Spring; M.-M Close	1	
51	023-28377-007	*Rear Cover; M.-M. Unit	1	
	023-75137-057	*Master Roll Holder Assy A3(52-64)	1	39x, 37x, 59x, 57x
	023-75139-050	*Master Roll Holder Assy A4(52-64)	1	31x, 30x, 51x, 50x
	023-75138-053	*Master Roll Holder Assy B4(52-64)	1	33x
52	023-28130-001	**Fulcrum Plate; Master Roll Holder	1	
53	023-28131-008	**Shaft; Master Roll Holder	1	
54	023-28132-004	**Lever Shaft; Master Roll Holder	1	
55	023-28371-009	**Master Holder Base; A3	1	39x, 37x, 59x, 57x
55	023-28375-004	**Master Holder Base; A4	1	31x, 30x, 51x, 50x
55	023-28374-008	**Master Holder Base; B4	1	33x
56	023-28133-000	**Lever; Master roll Holder	1	
57	023-28135-003	**Lever Spring; Master Roll Holder	1	

Fig23 Master Making Area(3)

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Fig24. Master-Making Area (4)

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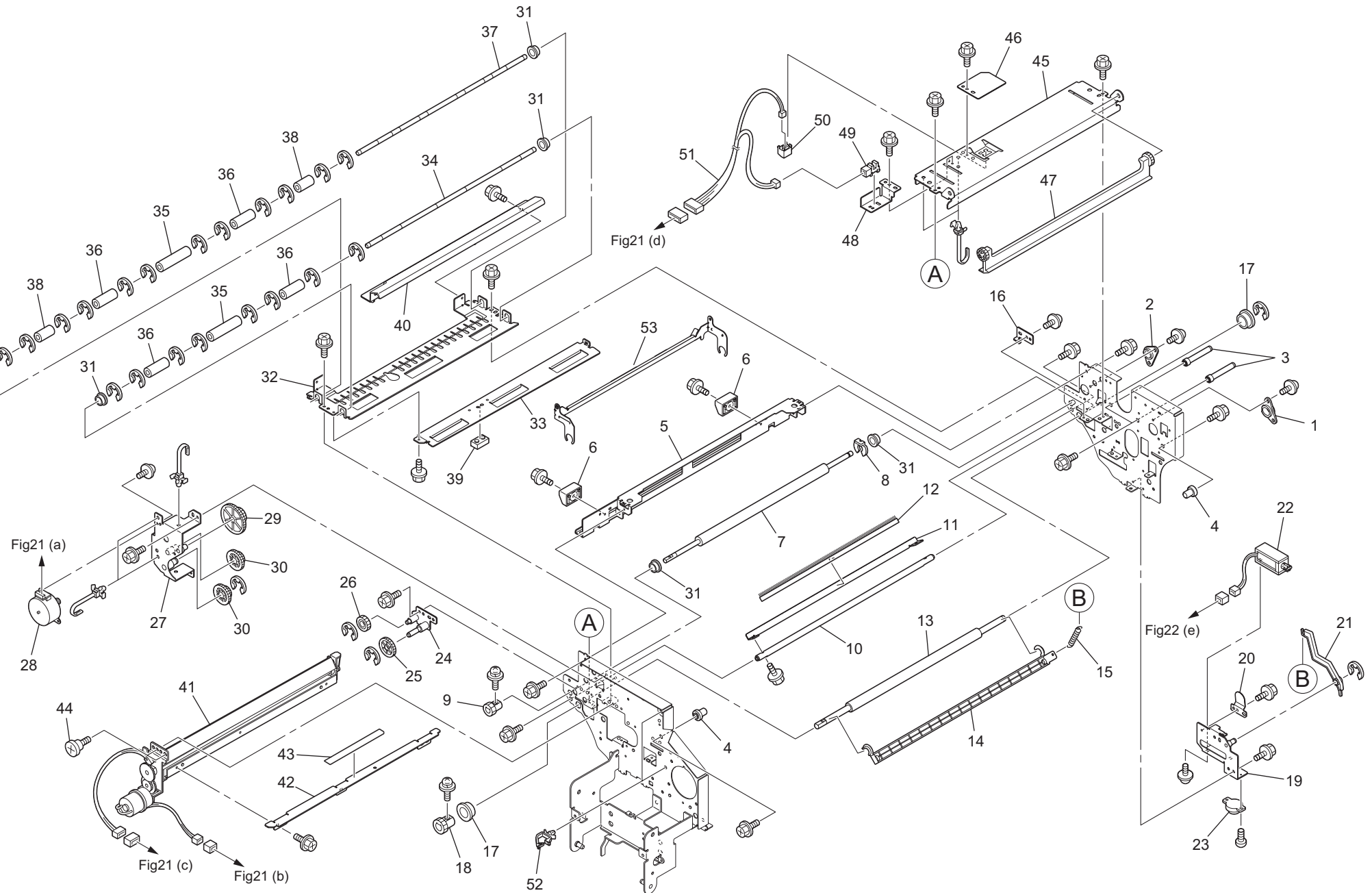


Fig24 Master Making Area(4)

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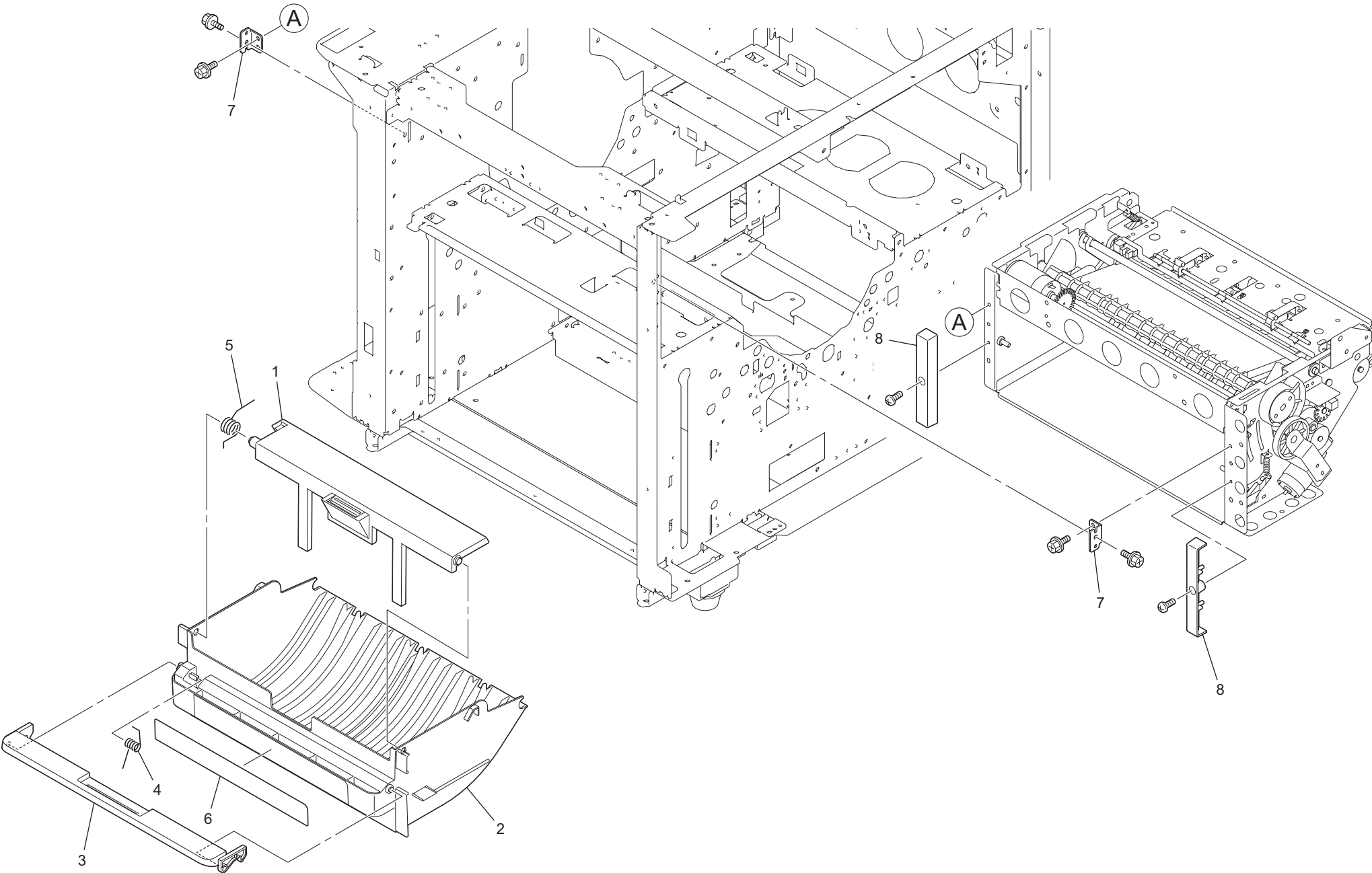
No.	Part No.	Part Name	Q'ty	Remark
1	030-16108-005	*Shaft Holder; Right	1	
2	030-16109-001	*Shaft Holder; Left	1	
3	023-28076-007	*Shaft; Drawer Connector; M.-M Unit	2	
4	023-28148-008	*Hook Shaft; M.-M Unit	2	
5	023-28014-109	*Upper Stay; M.-M Unit	1	
6	023-28367-001	*Guide Block; M.-M. Unit Mount	2	
7	023-28046-000	*M. Loading Roller; A3	1	39x, 37x, 59x, 57x
7	023-28285-005	*M. Loading Roller; B4	1	31x, 30x, 33x, 51x, 50x
8	023-17197-007	*Lock Ring 4	1	
9	612-10103-006	*Gear;M0.8X13X5	1	
10	023-28044-008	*Shaft; M. Loading Roller	1	
11	023-28405-108	*Bracket; De-Elect. Brush; M Loading	1	
12	023-28415-006	*De-Electricity Brush; M Loading	1	
13	023-28048-003	*Load Roller; A3	1	39x, 37x, 59x, 57x
13	023-28284-009	*Load Roller; B4	1	31x, 30x, 33x, 51x, 50x
14	023-28051-004	*Guide Plate; Stocker	1	
15	023-28052-000	*Hook Spring; Stoker Guide Plate	1	
16	023-28194-107	*Holding Plate R; Stoker Guide Plat.	1	
17	607-15005-002	*Metal; F8X10X8; 12X1.5	2	
18	612-10104-002	*Gear;M0.8X16X5	1	
19	023-28383-007	*Fulcrum Plate; Master Stoker	1	
20	023-28380-008	*Pressure Plate; Write Roller	1	
21	023-28141-003	*Fulcrum Lever; Stoker	1	
22	490-50007-005	*Solenoid; Tds-09SI-59	1	
23	610-00022-003	*Damper; 2G50-C-10HG	1	
24	023-28376-108	*Bracket; Gear Shaft; M Loading	1	
25	612-10106-005	*Gear;M0.8X34X4	1	
26	612-10105-009	*Gear;M0.8X16X4	1	
27	023-28196-002	*Bracket; Load Pulse Motor	1	
28	490-33015-002	*Motor; PM42L-048-ZVN6	1	
29	612-80019-002	*Gear;Mx0.5X89+M0.8X34	1	
30	612-80018-006	*Gear;M0.8X36+M0.8X18	2	
	023-75140-058	*Master Guide Assy (31-39)	1	39x, 37x, 59x, 57x
	023-75141-054	*Master Guide Assy II(31-39)	1	31x, 30x, 51x, 50x

No.	Part No.	Part Name	Q'ty	Remark
	023-74142-050	*Master Guide Assy ML;B4 SU(31-39)	1	33x
31	607-10006-000	**Metal;F6x8x4;10x1	6	
32	023-28057-002	**Cutter Guide Upper; A3	1	39x, 37x, 59x, 57x
32	023-28265-004	**Cutter Guide Upper; B4	1	31x, 30x, 51x, 50x
32	023-28436-003	**Cutter Guide Upper; B4R	1	33x
33	023-28058-106	**Cutter Guide Lower; A3	1	39x, 37x, 59x, 57x
33	023-28263-109	**Cutter Guide Lower; B4	1	31x, 30x, 51x, 50x
33	023-28437-000	**Cutter Guide Lower; B4R	1	33x
34	023-28184-004	**Shaft; Stoker roller Upper; A3	1	39x, 37x, 59x, 57x
34	023-28272-000	**Shaft; Stoker roller Upper; B4	1	31x, 30x, 33x, 51x, 50x
35	023-28190-101	**M Transfer Roller; Wide Width	2	
36	023-28191-108	**M Transfer Roller; Middle width	4	39x, 37x, 59x, 57x
36	023-28191-108	**M Transfer Roller; Middle width	2	31x, 30x, 33x, 51x, 50x
37	023-28093-009	**Shaft; Load Roller Upper; A3	1	39x, 37x, 59x, 57x
37	023-28286-001	**Shaft; Load Roller Upper; B4	1	31x, 30x, 33x, 51x, 50x
38	023-28192-104	**M Transfer Roller; Short Width	2	
39	444-39000-004	**Sensor; E-3674	1	
40	023-28340-006	*Guide; Master Loading	1	
41	023-28421-103	*Cutter Unit(rotary)	1	33x, 39x, 37x, 59x, 57x
41	023-28422-002	*Cutter Unit(Shuttle)	1	31x, 30x, 51x, 50x
42	023-28327-107	*Master Guide Plate A; A3(D23)	1	33x, 39x, 37x, 59x, 57x
42	023-28310-000	*Master Guide Plate A; B4(D23)	1	31x, 30x, 51x, 50x
43	023-28946-001	*Seal; Pos. Leading Edge Of Master; Pic	1	
44	635-10007-001	*Stepped Screw;F5X3;M3X3	2	
45	023-28323-004	*Cutter Cover	1	33x, 39x, 37x, 59x, 57x
45	023-28289-000	*Cutter Cover 2	1	31x, 30x, 51x, 50x
46	023-28053-104	*Cover; Master Pos. Sensor	1	
47	023-28317-004	*Master Set Guide Bar	1	33x, 39x, 37x, 59x, 57x
47	023-28379-000	*Master Set Guide Bar B4	1	31x, 30x, 51x, 50x
48	023-28214-108	*Bracket; Set sensor; M.-M Upper	1	
49	444-30008-002	*Sensor; LG-248NI1	2	
50	444-33003-109	*Sensor; ON-171-A8	1	
51	023-28242-101	*Wire Harness; M Pos. Sensor	1	
52	665-02044-002	*Wire Saddle LWS-0711	2	

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Fig25. Master-Removal Area (1)



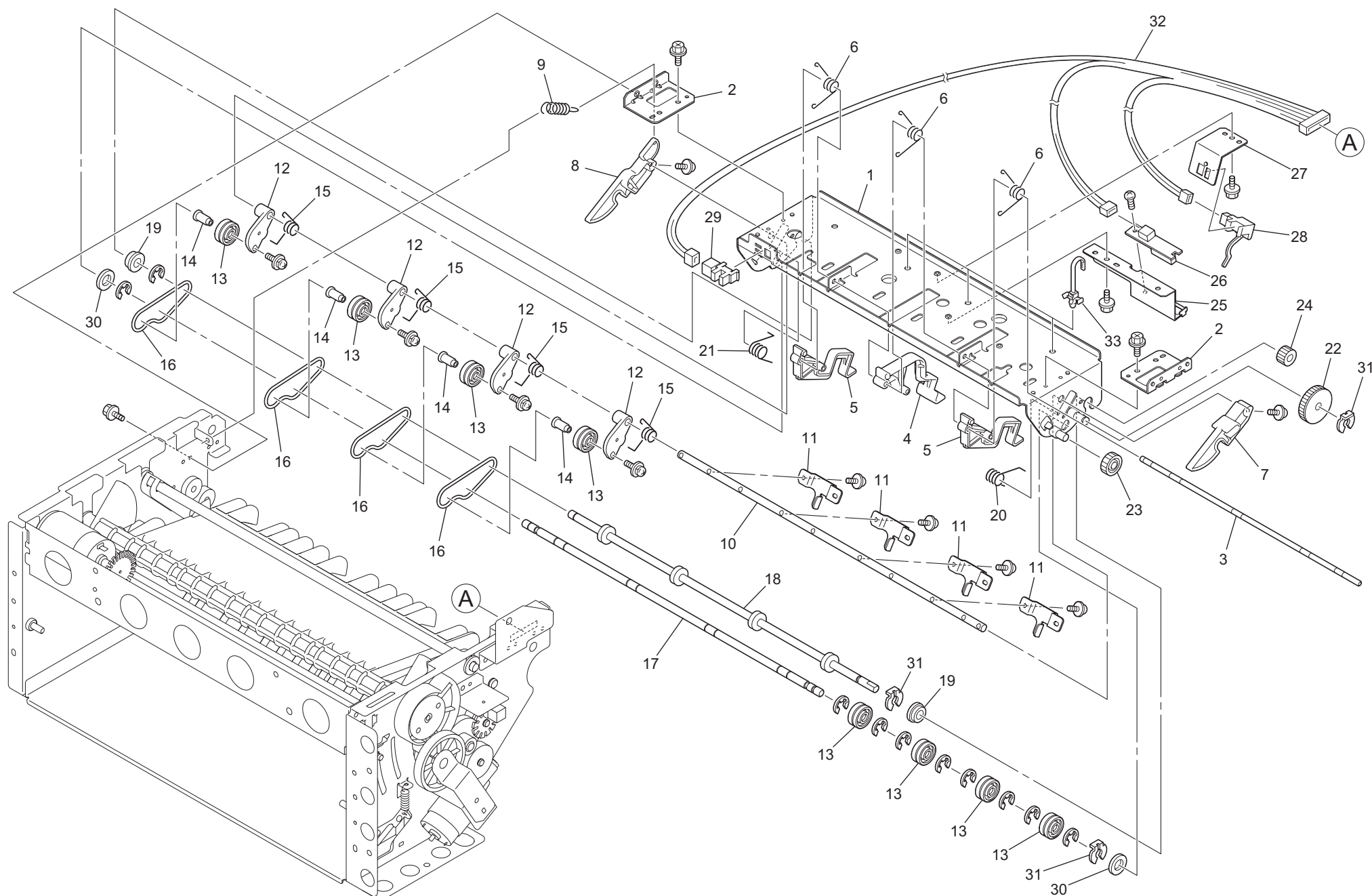
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Fig26.Master-Removal Area (2):RZ-59x,57x,39x,37x

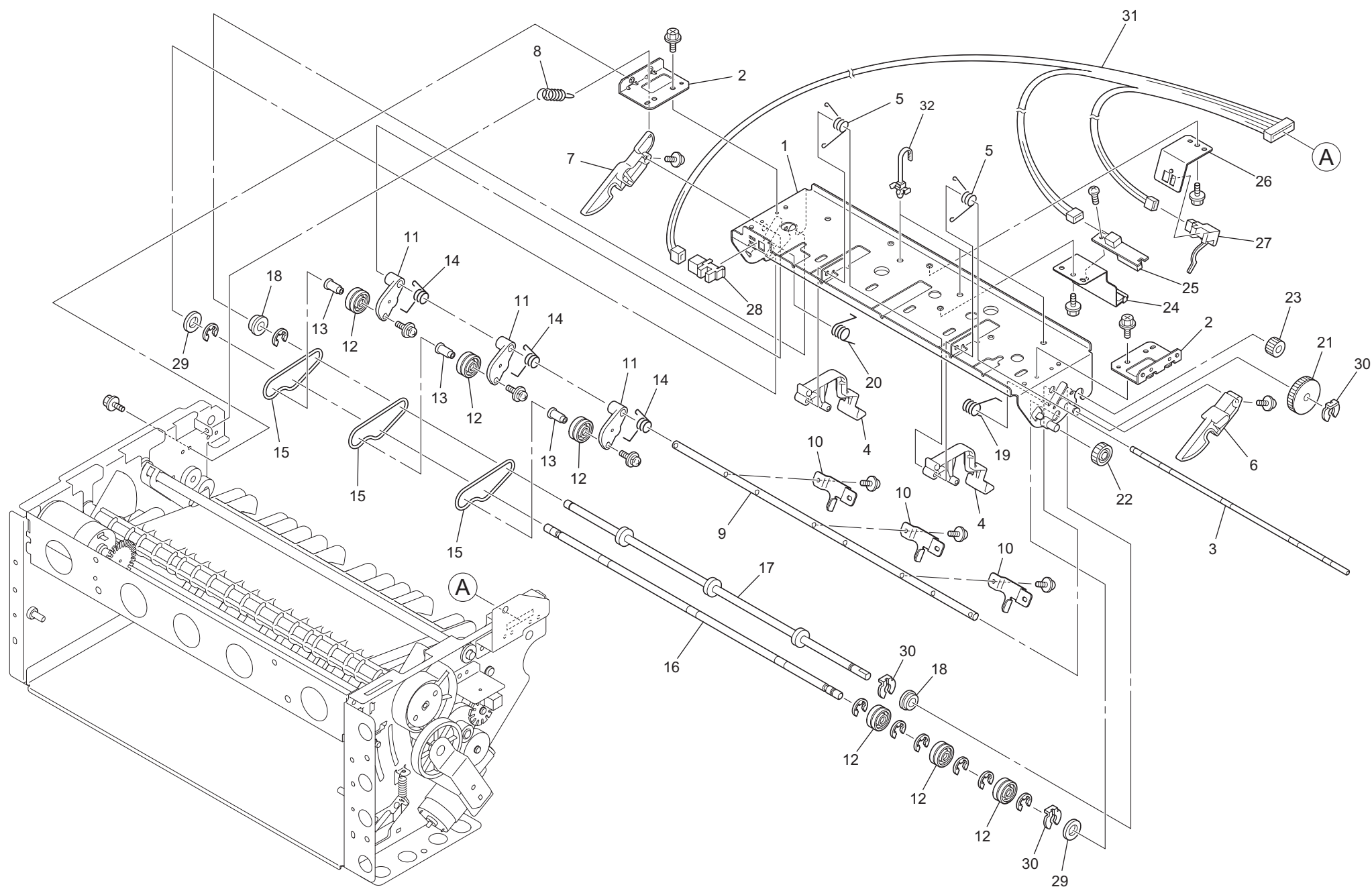
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Fig27. Master-Removal Area (2):RZ-51x,50x,33x,31x,30x



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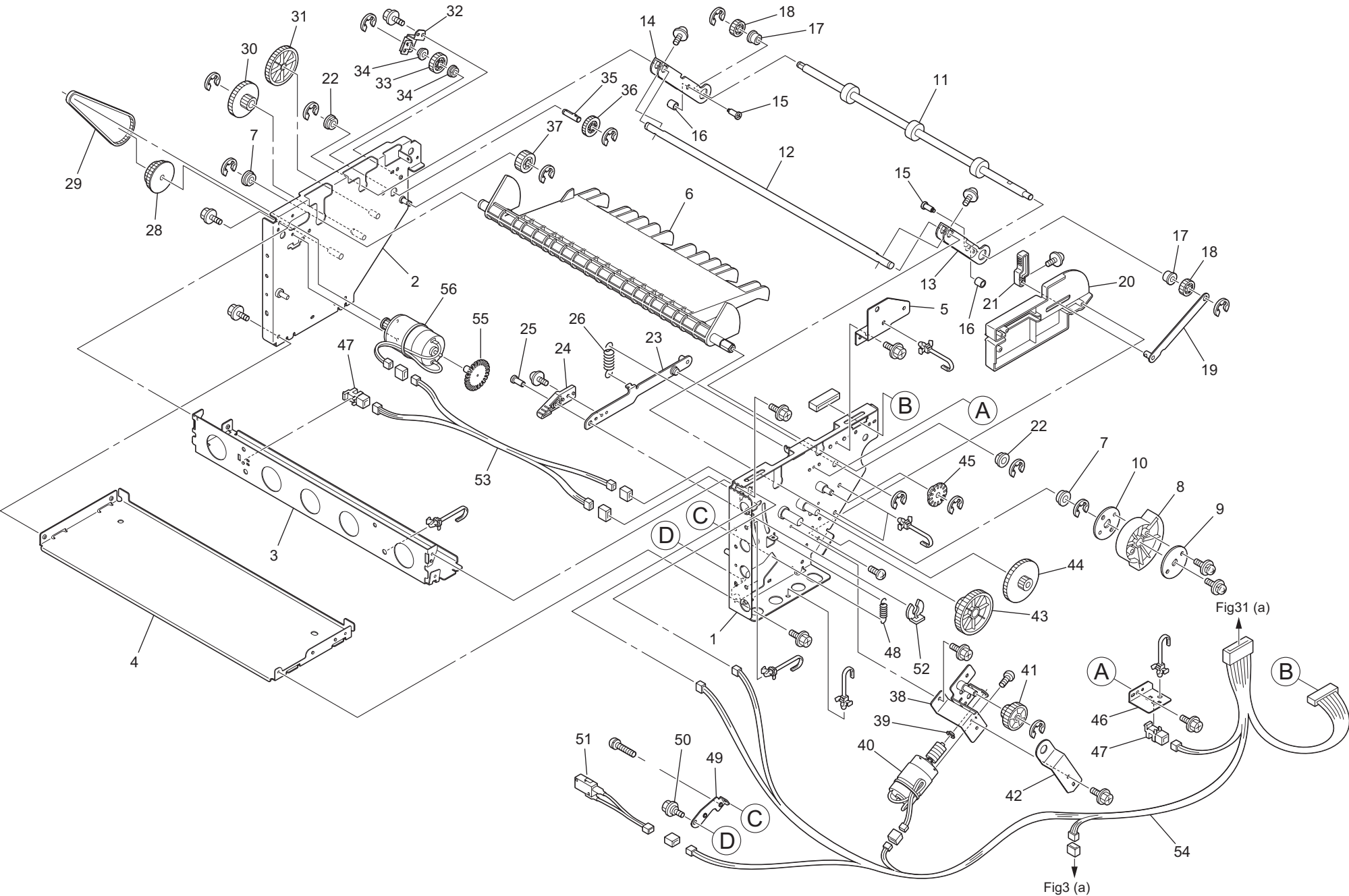
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No.	Part No.	Part Name	Q'ty	Remark
	023-75136-050	Master Removal Unit II(Fig26,Fig27)	1	31x,30x, 33x, 51x, 50x
1	023-24021-208	*Housing; M.-Rmv.	1	
2	023-24128-002	*Bracket ; Housing; M.-RMV.	2	
3	023-24144-008	*Shaft; M-Rmv Guide	1	
4	023-24145-004	*M-Rmv Guide A	2	
5	023-24147-007	*Spring; M-Rmv Guide	2	
6	023-24130-007	*Hook F; M-Rmv Roller	1	
7	023-24131-003	*Hook R; M-Rmv Roller	1	
8	023-24137-001	*Spring Hook R; Trans. Roller; M-Rmv	1	
9	023-24108-001	*Shaft II; Plate Pulley; M-Rmv	1	
10	023-24129-009	*Holding Plate; Pulley; M.-Rmv.	3	
11	023-24062-109	*Plate; M.-Rmv. Pulley	3	
12	023-24061-102	*Pulley; M-Rmv	6	
13	023-24063-202	*Shaft; Pulley; M-Rmv	3	
14	023-24067-003	*Spring; Plate Pulley; M-Rmv	3	
15	628-21401-009	*Transfer Belt 2; 2X140	3	
16	023-24107-005	*Master Removal Roller (Up) II	1	
17	023-24109-202	*Pulley Shaft II; M.-Rmv	1	
18	607-10009-000	*Metal;F6X10X6.5;12X1.5	2	
19	023-24058-004	*Spring A Front; M-Rmv. Roller	1	
20	023-24059-000	*Spring A Rear; M-Rmv Roller	1	
21	612-10001-009	*Gear;M1.25X22	1	
22	612-10002-005	*Gear;M1.25X12	1	
23	612-10003-001	*Gear;M1.25X9	1	
24	023-24027-001	*Bracket; Loading Sensor	1	
25	444-43007-200	*Master Loading Sensor	1	
26	023-24056-001	*Bracket; M.-RMV. Sensor	1	
27	444-41002-200	*Sensor;OS665633-703	1	
28	444-30008-002	*Sensor; LG-248NI1	1	
29		*Washer; D6	2	
30	023-17197-007	*Lock Ring 4	3	
31	023-24100-108	*Wire Harness; M-Rmv	1	
32	665-01212-009	Reuse Band ; RSG-130	3	

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Fig28. Master-Removal Area (3)

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Fig29. Electrical Component Area(1) RZ3 Panel

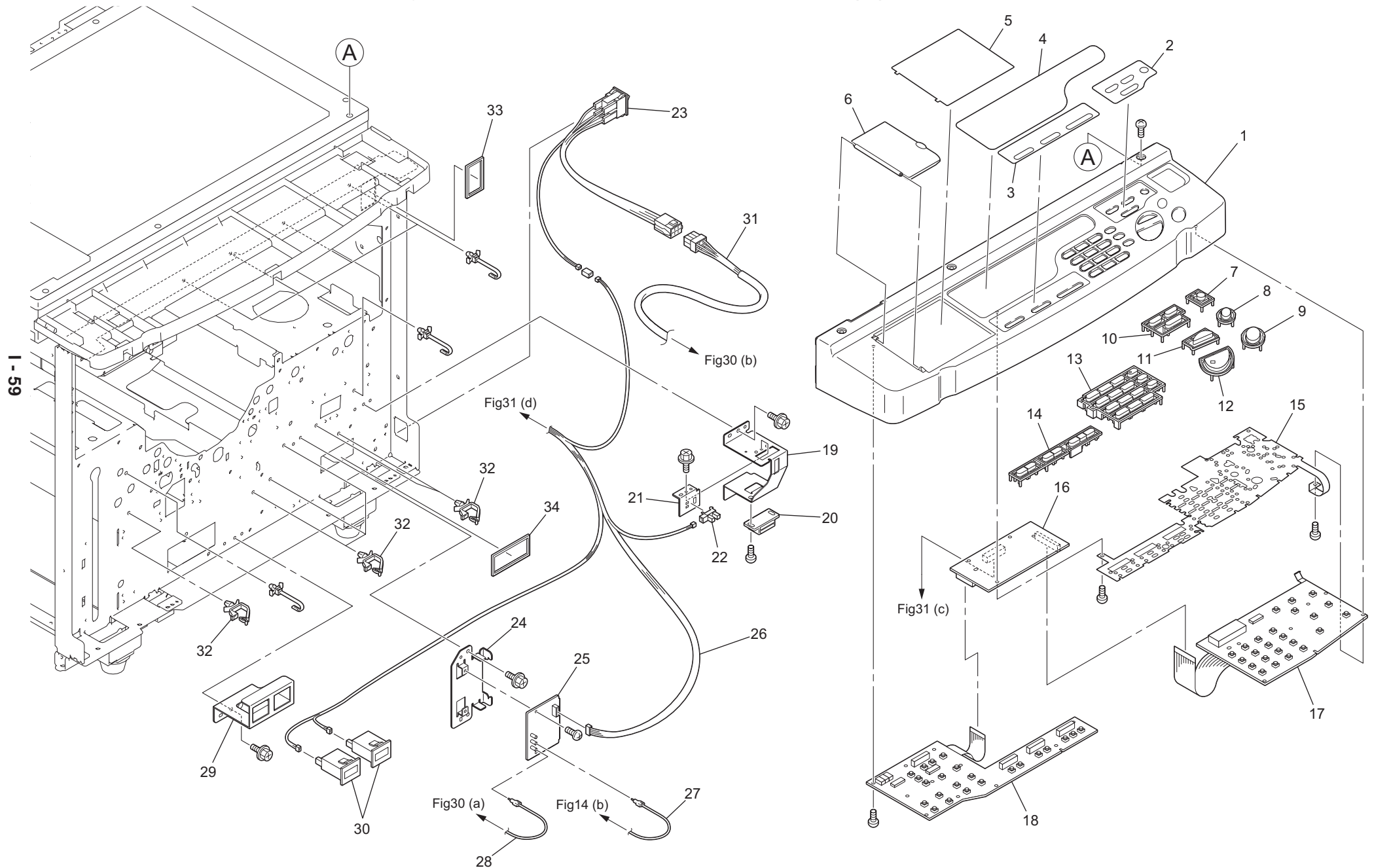
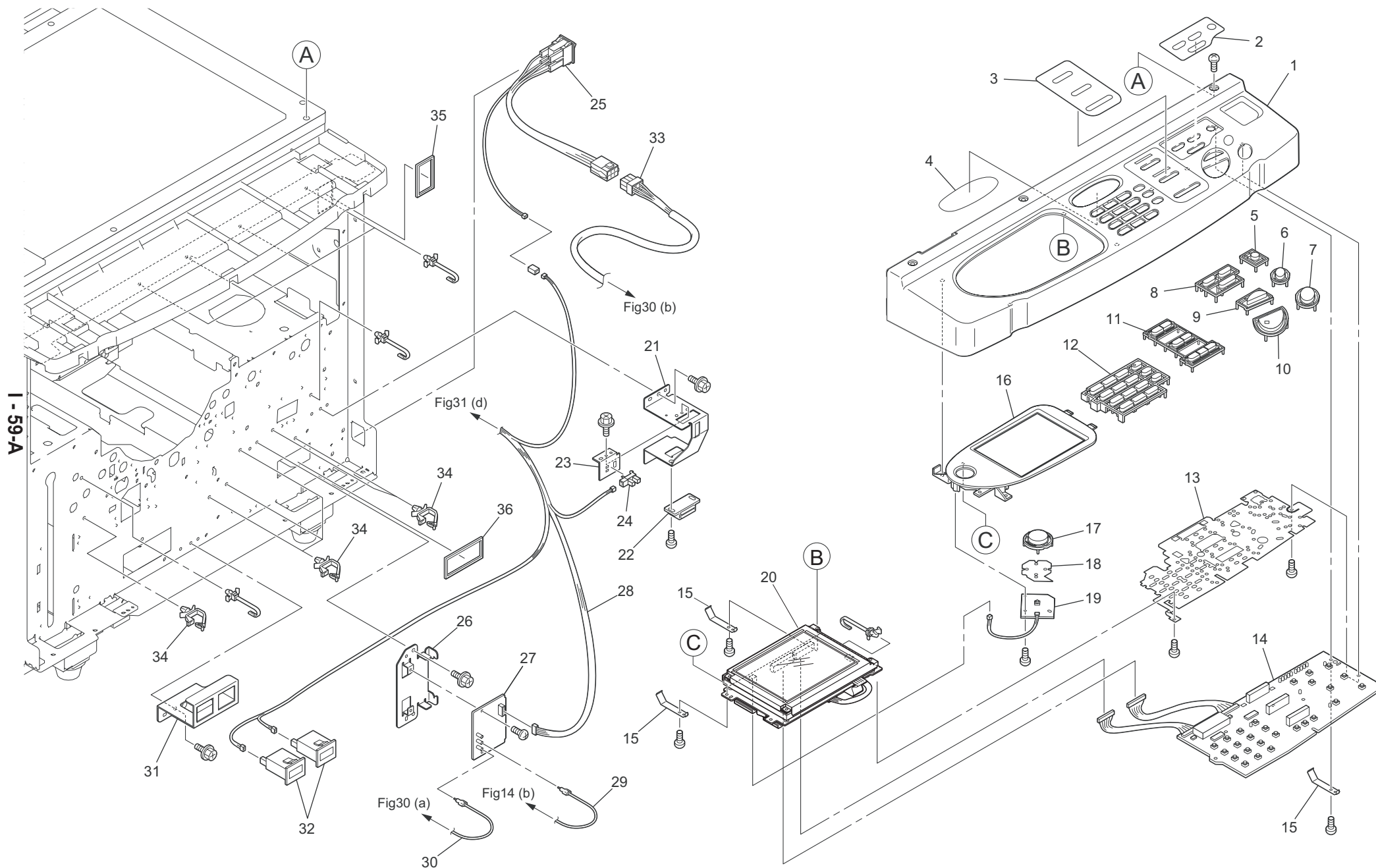


Fig29 Electrical Component Area(1) RZ3 Panel

No.	Part No.	Part Name	Q'ty	Remark
	023-75104-051	Panel Unit ; RZ300EP (1-18)	1	RZ300EP
	023-75106-054	Panel Unit; RZ310UI (1-18)	1	RZ31xUI
	023-75107-050	Panel Unit; RZ370AW/AN (1-18)	1	RZ37xAW/AN
	023-75108-057	Panel Unit; RZ370C (1-18)	1	RZ37xC
	023-75099-058	Panel Unit; RZ370EP/UP (1-18)	1	RZ37xEP/UP
	023-75105-058	Panel Unit; RZ390UI (1-18)	1	RZ39xUI
		Panel Unit; RZ330AW (1-18)	1	RZ33xAW
1	023-37002-105	*Frame; Panel	1	
2	023-37061-004	*Sheet ; Panel Mode Key Pic	1	EP,UP
2	023-37062-000	*Sheet ; Panel Mode Key Ch	1	C,CN
2	023-37015-002	*Sheet ; Panel Mode Key Eng	1	UI,AW,AN
3	023-37067-100	*Sheet ; Print Control;RZ3 Pic/mm	1	EP,UP
3	023-37016-106	*Sheet ; Print Control;RZ3 Eng/inch	1	UI
3	023-37066-103	*Sheet ; Print Control;RZ3 Eng/mm	1	AW,AN
3	023-37068-106	*Sheet ; Print Control;RZ3 Ch/mm	1	C,CN
4	023-37076-001	*Plate ; Main Panel	1	EP,UP
4	023-37077-105	*Plate ; Main Panel Ch	1	C,CN
4	023-37018-001	*Plate ; Main Panel Eng	1	UI,AW,AN
5	023-37082-001	*Sheet ; Sub Panel; RZ370EP/UP	1	RZ37xEP/UP
5	023-37085-108	*Sheet ; Sub Panel; RZ300EP	1	RZ30xEP
5	023-37017-005	*Sheet ; Sub Panel; RZ390UI	1	RZ39xUI
5	023-37084-004	*Sheet ; Sub Panel; RZ310UI	1	RZ31xUI
5	023-37081-005	*Sheet ; Sub Panel; RZ370AW/AN	1	RZ37xAW/AN
5	023-37083-008	*Sheet ; Sub Panel; RZ370C	1	RZ37xC
5	023-37097-009	*Sheet ; Sub Panel; RZ330AW	1	RZ33xAW
6	023-37013-000	*Cover; Sub-Panel	1	
7	023-37056-000	*Wake-Up Key	1	
8	023-37047-001	*Reset Key; Pic.	1	EP,UP
8	023-37046-005	*Reset Key; Eng	1	UI, AW, AN
8	023-37048-008	*Reset Key; Ch	1	C,CN
9	023-37037-006	*Stop Key; Pic.	1	EP,UP
9	023-37036-000	*Stop Key; Eng	1	UI, AW, AN
9	023-37038-002	*Stop Key; Ch	1	C,CN
10	023-37050-100	*Print Mode Key	1	

No.	Part No.	Part Name	Q'ty	Remark
11	023-37042-000	*Test Print Key; Pic.	1	EP,UP
11	023-37041-003	*Test Print Key; Eng	1	UI, AW, AN
11	023-37043-006	*Test Print Key; Ch	1	C,CN
12	023-37032-004	*Start Key; Pic.	1	EP,UP
12	023-37031-008	*Start Key; Eng	1	UI, AW, AN
12	023-37038-002	*Start Key; Ch	1	C,CN
13	023-37040-007	*Numeric Key	1	
14	023-37051-009	*Print Control Key; RZ3	1	
15	023-37011-104	*Protection Shield	1	
16	023-37021-100	*Lpnl-Ctl PCB	1	
17	023-37022-106	*Main-SW-PCB	1	
18	023-37023-102	*Sub-SW-PCB	1	
19	023-34051-105	Bracket; Front Cover SW	1	
20	660-05000-018	Magnet Catch;SM-50P	1	
21	023-34053-205	Bracket; Sensor; Front Cover	1	
22	444-30010-007	Sensor; LG285D1	1	
23	023-50031-009	Main Power SW Ass'y	1	
24	023-50024-002	Bracket; Rf-Tag PCB	1	
25	444-59003-107	RF-Tag PCB	1	
26	023-53007-109	Wire Harness; Lower F	1	
27	023-53014-008	Wire Harness; Drum Drawer H	1	
28	023-53003-006	Wire Harness; Master Rf-Tag	1	
29	023-50022-000	Bracket; Counter	1	
30	492-00001-108	Counter	2	
31	023-50032-005	Wire Harness; Main Power SW	1	
32	665-02044-002	Wire Saddle;LWS-0711	6	
33	665-04002-005	Square Bushing	1	
34	665-04055-001	SB-6025	1	

Fig 29-A Electrical Component (1) RZ5 Panel

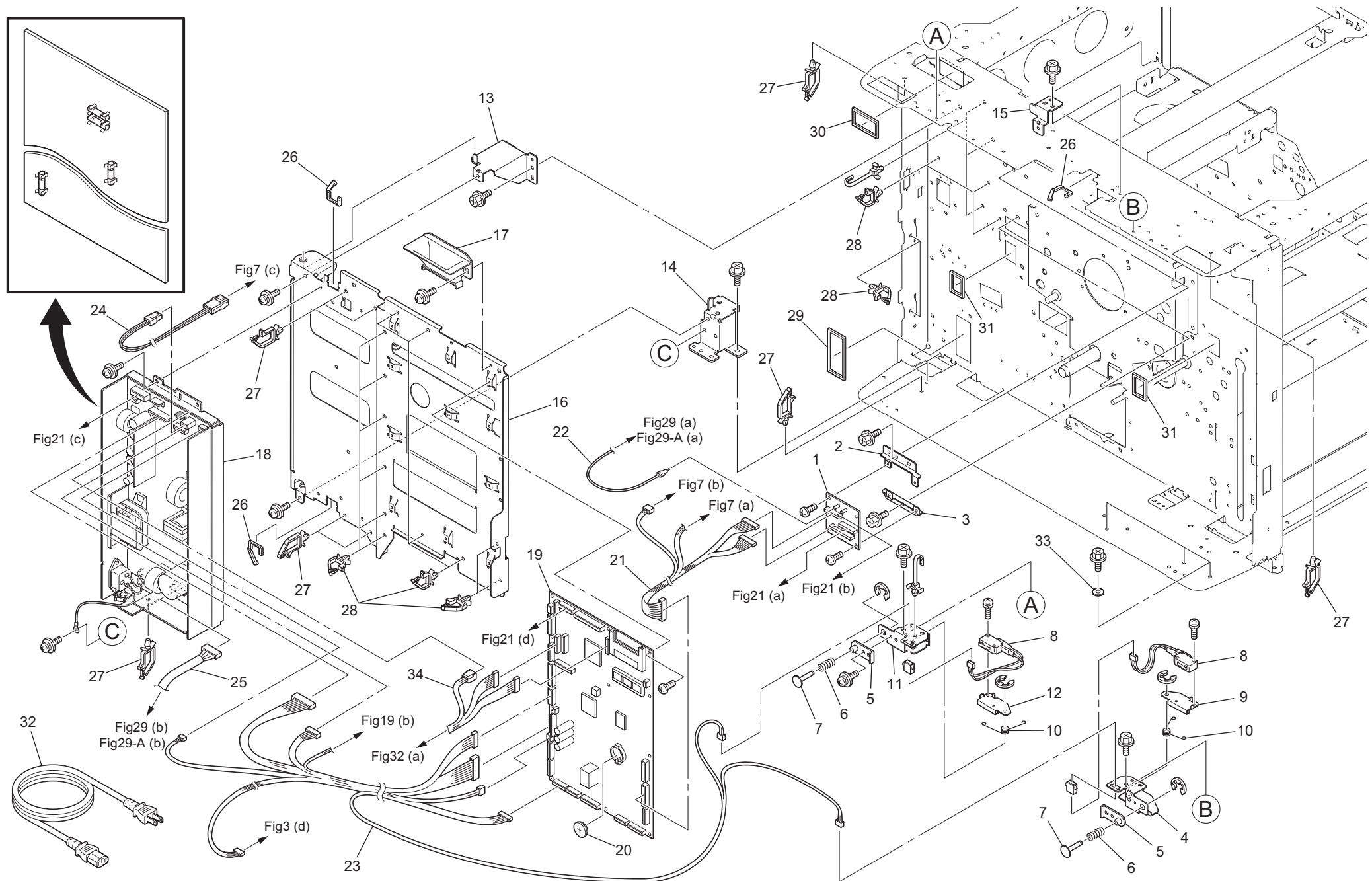


No.	Part No.	Part Name	Q'ty	Remark
		Panel Unit ; RZ5 Eng (1-19)	1	UI,AW,AN
		Panel Unit; RZ5 Pic (1-19)	1	EP,UP
		Panel Unit; RZ5 Ch (1-19)	1	C,CN
1	023-37101-200	*Frame Panel; RZ5	1	
2	023-37061-004	*Sheet ; Panel Mode Key Pic	1	EP,UP
2	023-37062-000	*Sheet ; Panel Mode Key Ch	1	C,CN
2	023-37015-002	*Sheet ; Panel Mode Key Eng	1	UI,AW,AN
3	023-37117-000	*Sheet; Print Control Key; RZ5 Eng	1	EP,UP
3	023-37118-006	*Sheet; Print Control Key; RZ5 Pic	1	UI,AW,AN
3	023-37119-002	*Sheet; Print Control Key; RZ5 Ch	1	C,CN
4	023-37103-009	*Numeric Display Cover	1	
5	023-37056-000	*Wake-Up Key	1	
6	023-37047-001	*Reset Key; Pic.	1	EP,UP
6	023-37046-005	*Reset Key; Eng	1	UI, AW, AN
6	023-37048-008	*Reset Key; Ch	1	C,CN
7	023-37037-006	*Stop Key; Pic.	1	EP,UP
7	023-37036-000	*Stop Key; Eng	1	UI, AW, AN
7	023-37038-002	*Stop Key; Ch	1	C,CN
8	023-37050-100	*Print Mode Key	1	
9	023-37042-000	*Test Print Key; Pic.	1	EP,UP
9	023-37041-003	*Test Print Key; Eng	1	UI, AW, AN
9	023-37043-006	*Test Print Key; Ch	1	C,CN
10	023-37032-004	*Start Key; Pic.	1	EP,UP
10	023-37031-008	*Start Key; Eng	1	UI, AW, AN
10	023-37038-002	*Start Key; Ch	1	C,CN
11	023-37107-004	*Print Control Key; RZ5	1	
12	023-37040-007	*Numeric Key	1	
13	023-37128-001	*Shield Mylar Sheet A; RZ5 SW-PCB	1	
14	023-37136-306	*ML-SW-PCB	1	
15	023-37142-004	*Grounding plate; LCD Panel RZ5	3	
16	023-37102-002	*Touch Panel Cover	1	
17	023-37109-007	*Display Mode Key; Eng	1	UI, AW, AN
17	023-37110-005	*Display Mode Key; Pic	1	EP,UP
17	023-37111-001	*Display Mode Key; Ch	1	C,CN

[illegible]

Fig30. Electrical Component Area (2)

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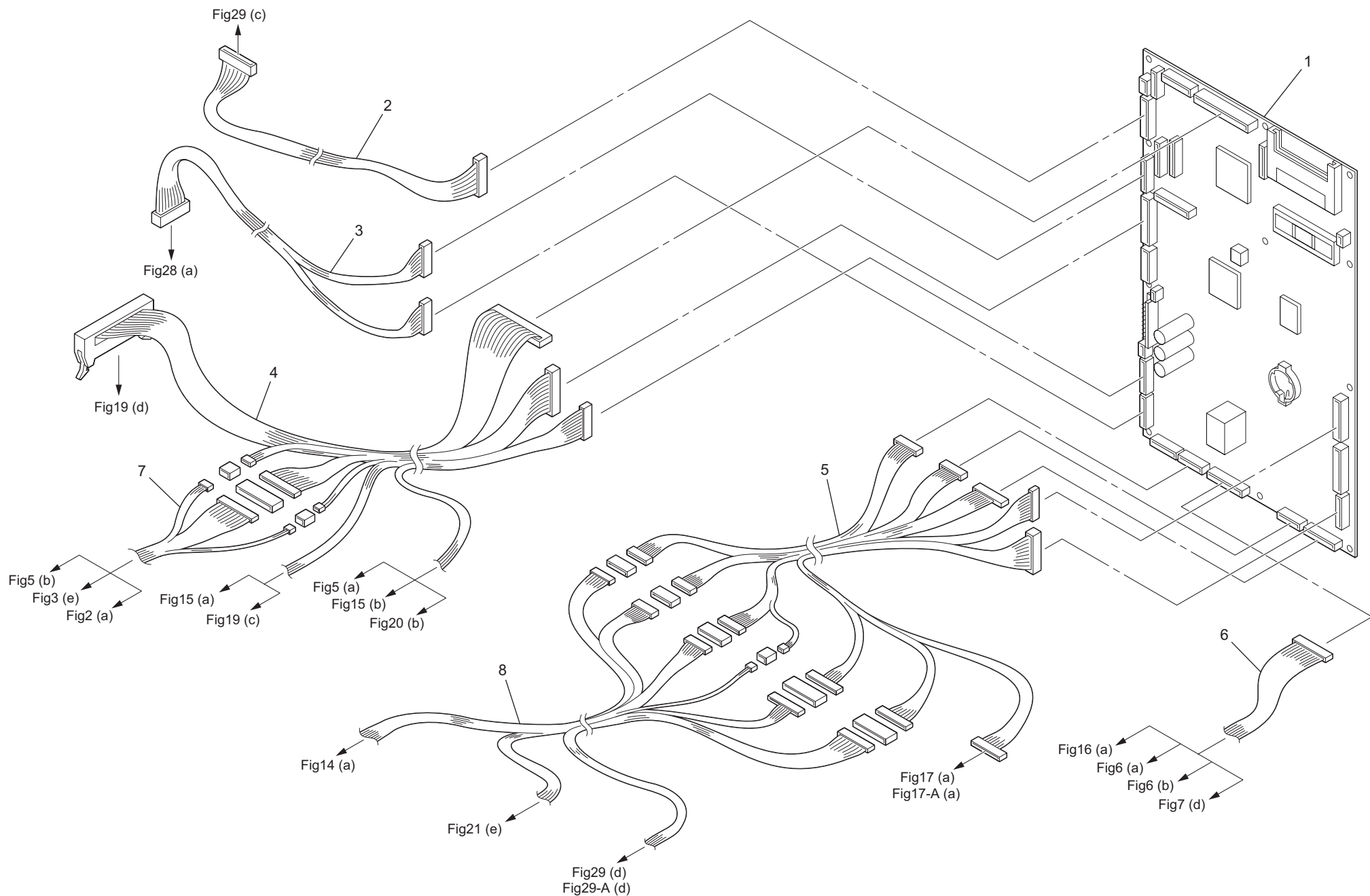


No.	Part No.	Part Name	Q'ty	Remark
1	023-28218-103	M.-Making Junction PCB	1	
2	023-28204-005	Bracket Upper; Junction PCB; M.-M.	1	
3	023-28221-007	Bracket Lower; Junction PCB; M.-M.	1	
4	023-50044-003	Frame; Drive Interlock SW; P.-F. Side	1	
5	023-50042-000	Shaft Bracket; Drive Interlock SW	2	
6	023-50041-004	Spring; Drive Interlock SW	2	
7	023-50055-005	Button; Drive Interlock SW	2	
8	023-53026-006	Drive Interlock Safety SW	2	
9	023-50052-103	Bracket Pf Side; Drive Interlock SW	1	
10	023-50053-002	Spring; SW Bracket; D Interlock SW	2	
11	023-50043-007	Frame; Drive Interlock SW; P.-Rcv. Side	1	
12	023-50051-107	Bracket P-Rcv Side; Drive Interlock SW	1	
13	023-50001-002	Hinge Upper; PCB Bracket; Ejection Side	1	
14	023-50002-106	Hinge Lower; PCB Bracket; Ejection Side	1	
15	023-50009-003	Bracket Upper; Power Supply PCB	1	
16	023-50006-101	Bracket; Power Supply & Mech PCB	1	
17	023-50013-000	Guide; Download Card	1	
18	023-50073-003	PS15-N200	1	EP,UP,AW,C
18	023-50033-206	PS15-N100	1	AN,UI
19	023-75055-000	MECHA-CTL PCB; L; SU	1	
20	408-02300-001	Battery;CR-2032	1	
21	023-53010-100	Wire Harness; Paper Ejection Rear	1	
22	023-53003-006	Wire Harness; Master RF-Tag	1	
23	023-53012-200	Wire Harness; FB Upper	1	3xx
23	023-53028-203	Wire Harness; FB Upper RZ5	1	5xx
24	023-53002-000	Wire Harness; Main Power Source	1	
25	023-50032-005	Wire Harness; Main Power SW	1	
26	665-02039-009	Edging Saddle;ESD-17L	3	
27	665-02055-004	Wire Saddle; LWS-2218	8	
28	665-02043-006	Wire Saddle;LWS-1316	17	
29	665-04055-001	SB-6025	1	
30	665-04002-005	Square Bushing	1	
31	665-04054-005	Square Bushing;Sb-2718	2	
32	488-00048-004	Power Cord; 220V EU (L)	1	EP,UP,AW,C

[illegible]

Fig31. Electrical Component Area (3)

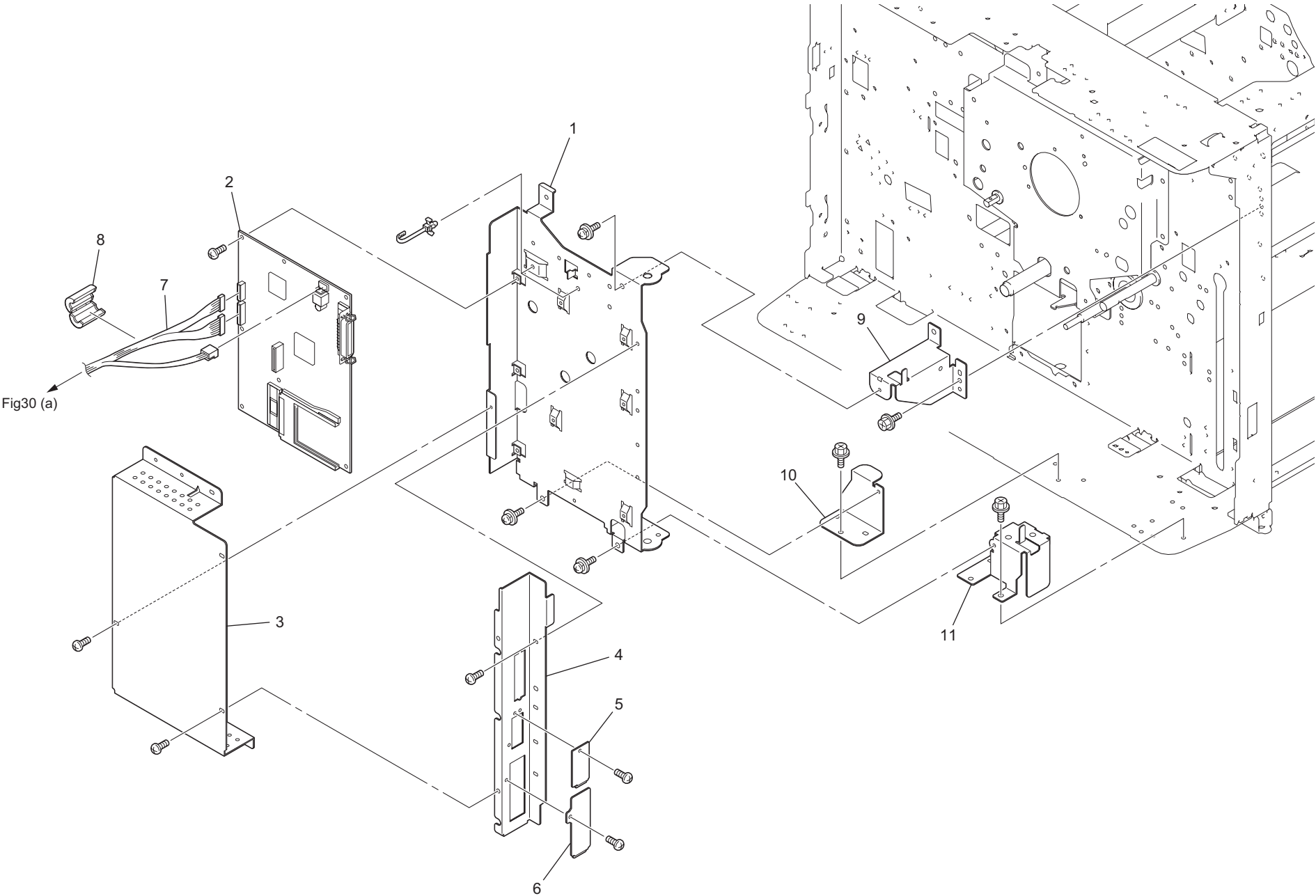
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1 - 64

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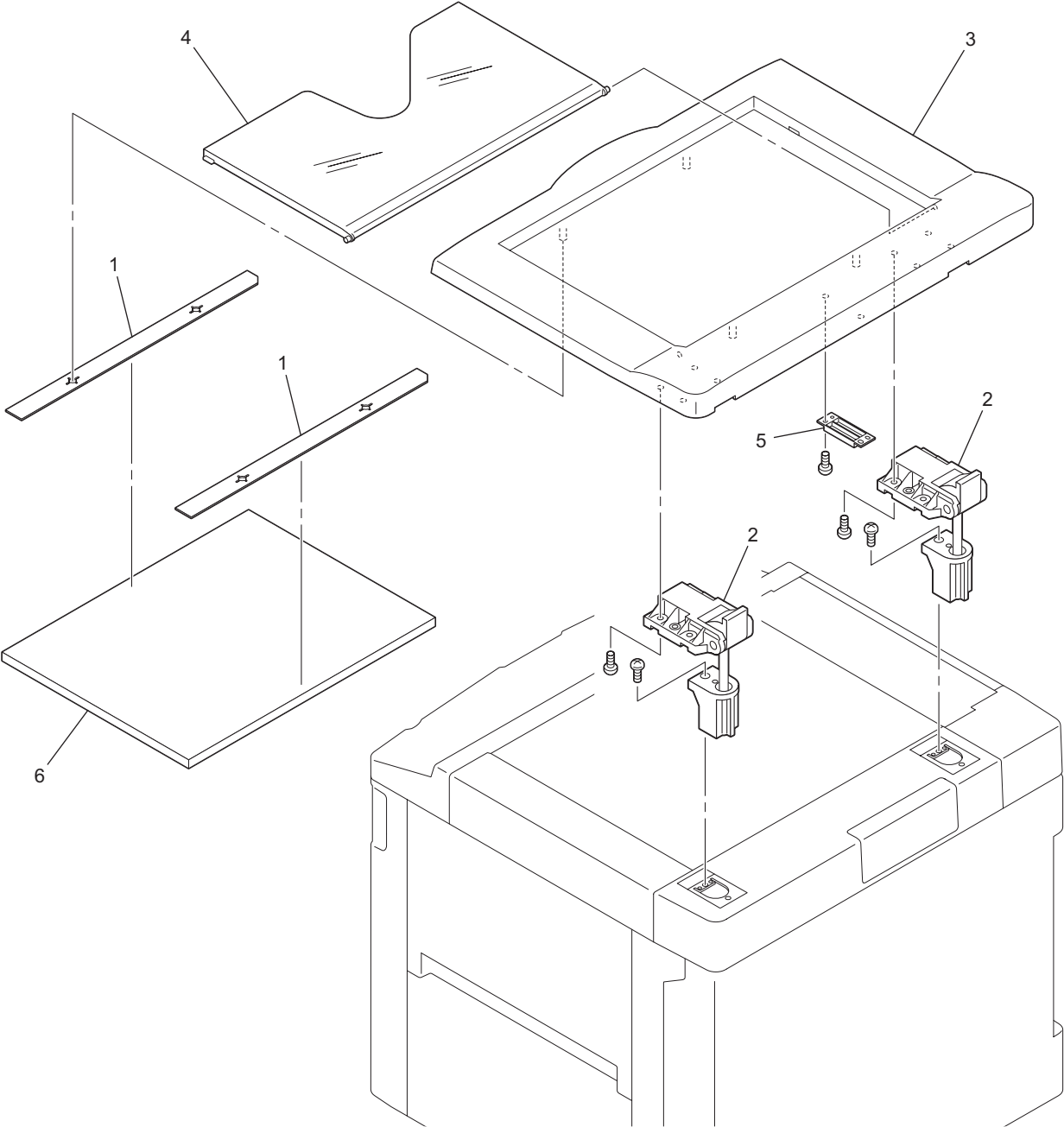
Fig32. Electrical Component Area (4)



1 - 66

[illegible]

Fig33. Stage Cover Area



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1-68

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Fig34. Exterior Cover Area

69 - 1

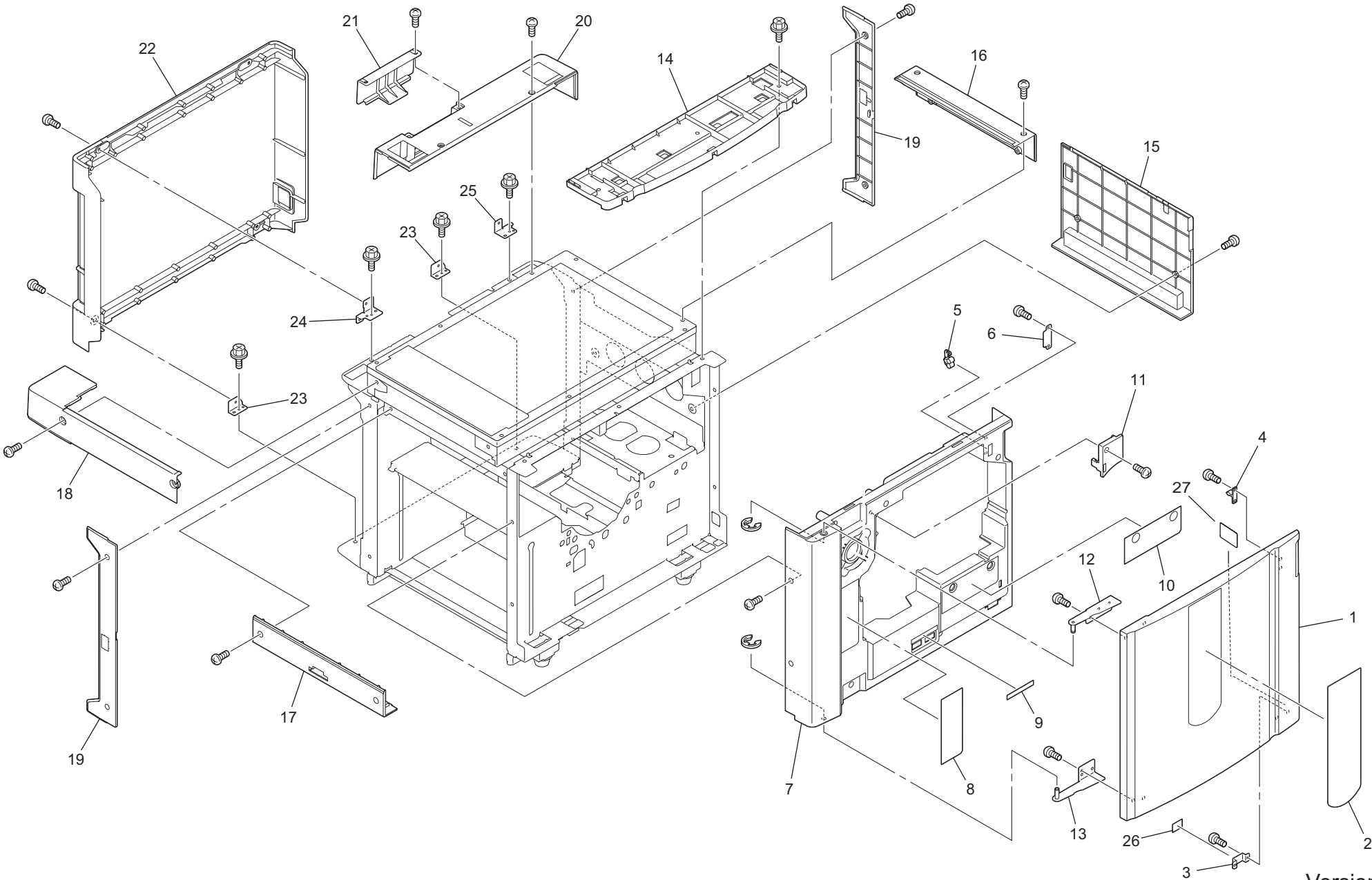


Fig34.Exterior Cover Area

1-70Version : 3.0

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1	011-11514-000	*Gear;Slide Rack;P.-F.-T.	1	4	19	
2	014-15011-004	*De-Electricity Bar ; M.-M.; A3	1	23	22	
3	015-36317-100	Shaft Screw; Ink Blocking Plate	2	12	11	
4	015-36317-100	Shaft Screw; Ink Blocking Plate	2	13	11	
5	015-36318-000	Spring; Ink Blocking Plate	2	12	13	
6	015-36318-000	Spring; Ink Blocking Plate	2	13	13	
7	017-13216-000	*Belt Roller;Suction	1	17	13	
8	017-13216-000	*Belt Roller;Suction	1	17-A	13	
9	017-13258-004	De-Electricity Brush;Suction	1	17	35	
10	017-13258-004	De-Electricity Brush;Suction	1	17-A	45	
11	018-16411-200	*Original Holder Cover (Upper);Stage Cover	1	33	4	
12	018-31614-001	*Ground Spring;Roller System	1	8	42	
13	018-33151-203	*Fence Cushion	1	18	2	
14	019-11812-106	Lock Ring	2	2	17	
15	019-11812-106	*Lock Ring	1	22	42	
16	019-11831-100	*Base F;Stripper Pad	1	8	48	
17	019-11832-000	*Cover F;Stripper Pad	1	8	47	
18	019-11833-006	*Stripper Pad;70	1	8	49	
19	019-13511-103	*Arm;Air Pump	1	16	20	
20	019-13512-002	*Arm Shaft;Air Pump	1	16	26	
21	019-13516-105	*Piston Head II;Air Pump	1	16	24	
22	019-13517-004	*Cylinder Valve II ; Air Pump	1	16	22	
23	019-13518-000	*Cylinder Valve Sheet ; Air Pump	1	16	23	
24	019-15255-007	**Guide Flange;Master Holder	1	23	64	
25	019-35025-008	**liner	1	23	26	
26	020-11520-009	*L.O. Sheet	1	4	2	
27	020-11811-100	Spring B; P.-F.Pressure Adj.	1	2	24	
28	020-11813-006	Arm;P.-F.Pressure Adj.	1	2	23	
29	020-13114-105	Fixing Pin	2	16	15	
30	020-13114-105	Fixing Pin	2	17	38	
31	020-13114-105	Fixing Pin	2	17-A	47	
32	020-13116-205	*P.-E. Pulley; Suction	3	17	1	
33	020-13116-205	*P.-E. Pulley; Suction	3	17-A	1	
34	020-65009-202	P.-F.Clutch	1	2	36	
35	021-04011-104	*Adj. Seal; P.-F.-T	1	4	30	
36	021-04050-002	Seal; Counter; Eng.	1	34	9	UI, AW, AN
37	021-04051-009	Seal; Counter; Pic.	1	34	9	EP,UP
38	021-11140-009	Fixed Plate;Rotary Catch	1	34	6	
39	021-11220-002	Magnet Catch	1	34	3	
40	021-17129-104	*Spring; Actuator	1	19	32	
41	021-17501-003	*Frame; Assy-Frame-Lower	1	20	7	
42	021-17505-106	*Bracket; K-BKT-M; Scanner	1	20	3	
43	021-17506-005	*Bracket Rear; Pulley; K-DV-R	1	20	27	
44	021-17507-001	*Wire Front; Wr-7X7-S-F	1	20	32	
45	021-17508-008	*Wire Rear; Wr-7X7-Z-R	1	20	33	
46	021-17509-004	*Mirror; Carriage 1; Mir-1	1	20	12	
47	021-17510-207	*Stage Glass; Gls-Platen	1	19	21	
48	021-17511-009	*Plastic Bearing; Gsf-081605	2	20	1	
49	021-17512-005	*Shading Plate;E-20	1	19	22	
50	021-17514-008	*Mylar; Mir-Frame-U; Scanner	2	19	17	
51	021-17515-004	*Sponge; Spng-Pg-1	1	19	13	
52	021-17516-000	*Sponge; Spng-Pg-2	2	19	14	
53	021-17516-000	*Sponge; Spng-Pg-2	2	19	15	
54	021-17516-000	*Sponge; Spng-Pg-2	2	19	18	
55	021-17517-007	*Sponge; Spng-Ccd-Cable	2	19	5	
56	021-17518-003	*Mylar; Inverter; Mir-Inv	1	20	11	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
57	021-17521-004	*Pulley Drive Shaft; Ply-Drive	1	20	31	
58	021-17523-007	*Support Shaft; Sft-Cr2; Carriage 2	1	20	25	
59	021-17525-000	*Screw;Scr-M3-1.6	2	19	3	
60	021-17528-009	*Plate Spring; Mirror 1; Spr-Mir-1	2	20	14	
61	021-17529-005	*Plate Spring; Spr-Mir-2	4	20	23	
62	021-17530-100	*Sponge; Spr-Glass-F	1	19	20	
63	021-17531-107	*Sponge; Spr-Glass-R	1	19	19	
64	021-17538-209	*Frame; Frm-Upper; Scanner	1	19	12	
65	021-17540-009	*Bracket; Pulley; BKT-DV	2	20	37	
66	021-17541-005	*Bracket; FB Pulse Motor; BKT-MOT	1	20	4	
67	021-17543-008	*Cover Plate; PLT-APS-SENS	1	19	26	
68	021-17544-004	*Plate; Plt-Ccd-Cable; Scanner	1	19	29	
69	021-17545-108	*Adj. Plate; PLT-ADJ-GLASS	1	19	4	
70	021-17546-007	*Plate; Plt-Hinge; Scanner	2	19	11	
71	021-17547-003	*Guide Plate; Plt-Ccd-Cable2	1	19	6	
72	021-17553-003	*Cover; CVR-LENS-UNIT	1	19	23	
73	021-17554-000	*Frame; Carriage 1; Frm-Cr1	1	20	8	
74	021-17555-006	*Adj. Bracket Rear; BKT-ADJ-CR1	1	20	13	
75	021-17556-002	*Reflector	1	20	19	
76	021-17557-009	*Bracket; BKT-WIRE-HOLD	2	20	6	
77	021-17558-005	*Cover; Inverter; CVR-INV	1	20	10	
78	021-17559-001	*Adj. Bracket Front; BKT-ADJ-CR1-F	1	20	16	
79	021-17560-000	*Frame; Carriage 2; Frm-Cr2	1	20	22	
80	021-17561-006	*Bracket F; BKT-SIIDE-CR2-F	1	20	26	
81	021-17562-100	*Bracket Front;Pulley; BKT-DV-CR2-F	1	20	30	
82	021-17564-005	*Slide Guide; SIIde-Bush; Carriage	8	20	17	
83	021-17565-001	*Guide Pulley; Ply-Turn	1	20	29	
84	021-17567-004	*Bracket; HP-SENS; Scanner	1	19	7	
85	021-17568-108	*Blind Cover;Guide	1	19	1	
86	021-17569-007	*Guide Bracket; Guide-Ffc-Frame	1	19	30	
87	021-17570-005	*Guide Bracket; Guide-Ffc-Cr1	1	20	18	
88	021-17574-000	*Pulley; Ply-S1.5M-75	1	20	34	
89	021-17575-007	*Pulley; Ply-S1.5M-90-30	1	20	2	
90	021-17579-002	*Shaft; Pulley; Sft-Dv	2	20	38	
91	021-17581-007	*Mirror 2; Carriage 2	2	20	24	
92	021-17582-003	*Pulley; Dv-19-H5-W0.25	6	20	28	
93	021-17583-000	*Belt; ST1173060	1	20	36	
94	021-17584-006	*Belt;ST1116060	1	20	35	
95	021-17585-002	*Tape-Frm-U; Scanner	6	19	16	
96	021-17589-008	*Sponge; Mirror 1; Spng-Mir	2	20	15	
97	021-50535-002	*PCB;Pba-Chukei	1	19	10	
98	021-50536-009	*Inverter;Pws-Pxz170E4-B	1	20	9	
99	021-51029-003	Push Button SW Ass'y	2	21	38	
100	021-51030-001	Elevator SW Ass'y	1	2	8	
101	021-51119-207	*Wire Harness;ASM-Main I/F	1	19	25	
102	021-51120-000	*Wire Harness;Assy-Ffc	1	20	20	
103	021-51121-007	*Wire Harness;ASM-H.Psens	1	19	9	
104	021-51122-003	*Wire Harness;ASM-Emptysens	1	19	28	
105	021-53141-005	*Sensor; Tlp1241(C5)	1	19	8	
106	021-53142-001	*Sensor;Ey3A-1061	1	19	27	
107	021-53143-008	*Lamp;Uxfl-08Yg37P2	1	20	21	
108	021-53201-008	*Motor;Kh42Jm2B154	1	20	5	
109	021-75014-007	*Sponge;Blind Cover Guide	4	19	2	
110	021-97404-100	*S-Ass'y-Ccd-Unit-300	1	19	24	
111	023-10003-002	Bottom Stay; Main Frame	2	1	12	
112	023-10004-009	Main Stay; Main Frame	1	1	8	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
113	023-10005-005	Stay; Paper Feeding; Main Frame	1	1	11	
114	023-10006-109	Stay; Master Making; Main Frame	1	1	7	
115	023-10007-008	Scanner Stay; Main Frame	2	1	5	
116	023-10008-004	Transportation Support Plate	4	1	16	
117	023-10009-000	Bottom Plate L; Main Frame	1	1	10	
118	023-10010-106	Panel Board; Main Frame	1	1	4	
119	023-10012-001	Upper Stay; Drum	1	1	6	
120	023-10014-004	Lower Stay; Drum	1	1	9	
121	023-10015-000	Support Bracket; FB Scanner	2	1	3	
122	023-10017-003	lifting Handle	4	1	17	
123	023-10018-000	Spacer; Rubber Foot	4	1	13	
124	023-10024-000	Noise Absorber; Bottom; Main Frame	2	1	15	
125	023-10030-000	Stopper; lifting Handle	4	1	18	
126	023-12101-206	*Paper Feed Tray; Upper	1	4	1	
127	023-12102-008	*Bottom Frame; P.-F.-T.	1	4	22	
128	023-12105-007	*Grounding Metal; P.-F.-T.	1	4	21	
129	023-12108-006	*Lever; P.-F.-T.	2	4	14	
130	023-12109-002	*Link Plate A; P.-F.-T.	2	4	15	
131	023-12121-100	*Bracket ; P.-F.-T.	1	4	26	
132	023-12123-102	*Adj. NUT; P.-F.-T.	1	4	24	
133	023-12125-008	*Connector Cover	1	4	33	
134	023-12126-004	*Bracket; Catch	1	4	4	
135	023-12127-000	*Slide Rack; P.-F.-T.	2	4	17	
136	023-12128-104	*Link Plate B; P.-F.-T.	2	4	16	
137	023-12129-003	*Guide Plate; Slide Rack	1	4	20	
138	023-12130-001	*Flexible Wire Cover; P.-F.-T.	1	4	32	
139	023-12132-004	*Shaft; P.-F. Tray	1	4	23	
140	023-12133-000	*Adjuster Dial; P.-F.-T.	1	4	25	
141	023-12138-002	Holder; Flexible Wire; P.-F.-T.	1	4	37	
142	023-12139-106	*Side Guide F; P.-F.-T	1	4	11	
143	023-12140-104	*Side Guide R; P.-F.-T	1	4	12	
144	023-12145-009	*Ground Plate; Side Guide; P.-F.-T	1	4	18	
145	023-12147-001	*Seal; Setting Instruction; P.-F.-T	1	4	13	
146	023-12150-002	*Seal; Closing Tray Instruction; P.-F.-T	1	4	3	
147	023-12155-209	*Bracket ; Hinge Cover	1	4	27	
148	023-12201-006	Elevator Rack; P.-F.	2	3	6	
149	023-12202-002	Spring; Elevator	2	3	15	
150	023-12203-009	Bracket; Elevator Spring; P.-F.	2	3	16	
151	023-12205-001	Lower limit Frame; P.-F.	1	3	7	
152	023-12206-008	Support; Lower limit Frame; P.-F.	1	3	8	
153	023-12207-403	Side Frame R; Elevator	1	3	1	
154	023-12216-500	Side Frame F; Elevator	1	3	2	
155	023-12223-000	*Gear Cover; Elevator Motor	1	3	23	
156	023-12231-002	Hook Rear; Elevator Spring	1	3	17	
157	023-12232-106	Reinforcement Plate; Elevator	1	3	5	
158	023-12233-102	Bracket; Lower limit Sensor	1	3	13	
159	023-12234-001	*Motor Chassis; Elevator Motor	1	3	22	
160	023-12237-000	Spring; Elevator Safety SW; Lower	2	3	11	
161	023-12238-007	Guide; Flexible Wire; P.-F.	1	3	18	
162	023-12241-105	*Shaft; Potentiometer Gear	1	4	8	
163	023-12244-104	*Elevator Motor Collar	2	3	28	
164	023-12247-006	*Cover; Elevator Motor	1	3	21	
165	023-12251-003	Bracket F; Spring; Lower Safety SW	1	3	9	
166	023-12252-000	Bracket R; Spring; Lower Safety SW	1	3	10	
167	023-12254-100	*Shaft; Damper Hinge; P-F-T	1	4	29	
168	023-12257-001	Bracket; Paper Feed Junction PCB	1	3	32	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
169	023-12261-009	Absorber Gear II; P.-F.	1	3	3	
170	023-12305-006	Pick-Up Roller; RZ(15-16)	2	2		
171	023-12306-002	*Core:Pick-up Roller	2	2	16	
172	023-12308-005	Actuator; Upper limit; Card; P.-F.-T	1	2	21	
173	023-12310-000	Stay; Paper Feed	1	2	22	
174	023-12312-100	P.-F.Pressure Adj.Lever	1	2	25	
175	023-12313-009	Spring; Pf Pressure Adj. Lever	1	2	26	
176	023-12314-005	Bracket A; Upper limit Sensor	1	2	27	
177	023-12315-001	E Switch Plate	1	2	6	
178	023-12316-108	Cover; P-Feed	1	2	1	
179	023-12319-007	Upper Guard	2	2	4	
180	023-12325-007	Bracket;Upper limit Sensor	1	2	31	
181	023-12328-103	Support; Pick-Up Roller Shaft	1	2	14	
182	023-12329-002	Shaft; Pick-Up Roller	1	2	11	
183	023-12330-000	Scraper Shaft; Pickup	1	2	18	
184	023-12333-204	Frame Bracket; Pick-Up	1	2	10	
185	023-12334-006	Actuator; Upper limit; Std; P.-F.-T	1	2	20	
186	023-12344-001	Spring; Elevator Safety SW; Upper	1	2	7	
187	023-12402-109	*Bracket; Stripper Base	1	8	44	
188	023-12403-008	*Spring Tension; Stripper	1	8	36	
189	023-12404-209	*Shaft; Stripper RZ-L	1	8	46	
190	023-12405-000	*Adjuster Dial; Stripper Unit	1	8	53	
191	023-12408-204	*Housing; Stripper RZ-L	1	8	45	
192	023-12409-200	*Worm Gear Box; Stripper Unit	1	8	52	
193	023-12412-007	*Arm; Stripper pressure	1	8	43	
194	023-12425-109	*Stripper Support; RZ-L	1	8	37	
195	023-12427-101	*Bracket; Hook; Stripper Pressure	1	8	51	
196	023-12428-000	*Lock Lever; Stripper Unit	1	8	41	
197	023-12429-104	*Spring; Angle Adj.; Stripper	1	8	35	
198	023-12430-005	*Unfix Lever; Stripper Unit	1	8	39	
199	023-12431-001	*Guide Block Front; Stripper Unit	1	8	38	
200	023-12501-000	*Timing Roller	1	8	10	
201	023-12503-002	*Bearing; Timing Roller	1	8	11	
202	023-12507-105	Adj. Plate; Timing Roller	1	8	14	
203	023-12510-009	Collar; Load Spring	1	8	18	
204	023-12511-005	*Guide Roller	1	8	20	
205	023-12512-001	*Shaft; Guide Roller	1	8	27	
206	023-12513-008	*Pressure Shaft; Guide Roller	1	8	26	
207	023-12514-004	*Pressure Plate; Guide Roller	1	8	28	
208	023-12515-000	*Support F; Guide Roller	1	8	21	
209	023-12516-007	*Support R; Guide Roller	1	8	25	
210	023-12519-006	*Lock Plate; Guide Roller	1	8	24	
211	023-12531-103	*Guide Plate (Lower)	1	8	32	
212	023-12533-203	*Guide Plate (Upper)	1	8	33	
213	023-12536-105	Stay; Guide Plate	2	1	22	
214	023-12537-004	Stay Holder; Guide Plate	2	8	29	
215	023-12541-001	Lower Cover; Guide Plate	1	1	21	
216	023-12542-105	Cover; Guide Roller	1	1	19	
217	023-12543-004	Back Cover; Stripper Unit	1	8	34	
218	023-12544-108	Noise Absorber; Guide Roller Cover	1	1	20	
219	023-12545-007	*Adj. Plate; Guide Roller	1	8	22	
220	023-12600-008	*Wire Harness; P.-F. Tray Inner	1	4	6	
221	023-12601-004	Wire Harness; P.-F. Tray Relay	1	3	35	
222	023-12601-004	Wire Harness; P.-F. Tray Relay	1	4	36	
223	023-12602-108	Wire Harness; Elevator Motor	1	3	31	
224	023-12603-007	Wire Harness; 1St Paper Feed	1	2	33	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
225	023-12603-007	Wire Harness; 1St Paper Feed	1	2	40	
226	023-12604-100	*Junction PCB; P.-F. Tray	1	4	5	
227	023-12605-107	*Potentiometer; P.-F.-T	1	4	7	
228	023-12606-006	*Wire Harness; Paper Sensor Relay	1	8	31	
229	023-15001-008	Bearing; Main Shaft	1	7	1	
230	023-15002-004	*Main Shaft; Drive	1	7	10	
231	023-15003-000	*Shaft Joint; Drive	1	7	9	
232	023-15006-107	Tensioner Lever; Main Belt	1	7	5	
233	023-15011-003	*Pressure Cam; A3	1	7	13	37x, 57x
234	023-15012-000	Bracket; Pressure Shaft	1	7	4	
235	023-15018-008	Pressure Spring 21	1	6	14	
236	023-15019-004	Noise Reduction; Pressure Spring	1	6	15	
237	023-15020-002	*Base Bracket; Pressure Solenoid	1	7	26	
238	023-15023-001	*Base Bracket; Pressure Control	1	6	1	
239	023-15025-004	*Gear Shaft; Pressure Control	1	6	6	
240	023-15027-007	*Cover Plate; Pressure Control	1	6	2	
241	023-15028-003	*Gear; Pressure Control	1	6	5	
242	023-15029-000	*Worm Shaft; Pressure Control	1	6	4	
243	023-15030-008	*Worm Gear; Pressure Control	1	6	3	
244	023-15031-004	Gear Wheel; Pressure Control	1	6	12	
245	023-15032-000	*Bracket; HP sensor; Pressure Control	1	6	9	
246	023-15033-104	Rotation Plate; Pressure Control	1	6	13	
247	023-15034-003	*Print Positioning Base	1	5	1	
248	023-15037-002	Lever Ass'y; Separator	1	7	30	
249	023-15038-009	Spring; Separator	1	7	31	
250	023-15041-204	Bracket; 1st Transmission	1	6	24	
251	023-15046-001	*Actuator; B position sensor	1	7	14	
252	023-15047-105	*Bracket; Main Motor	1	7	22	
253	023-15055-000	*Sector Cam	1	5	13	
254	023-15056-104	*Timing Cam	1	5	12	
255	023-15058-107	Lever Plate; Sector Gear	1	6	20	
256	023-15059-006	Sector Gear	1	6	21	
257	023-15060-101	Spring; Sector Gear	1	6	22	
258	023-15061-000	Guide Roller Lever	1	6	19	
259	023-15062-007	Bracket Base; Guide Roller Shaft	1	6	16	
260	023-15063-100	Spring; Guide Roller Release	1	6	18	
261	023-15068-005	*Sector Gear; Ver. Print Position	1	5	8	
262	023-15070-000	*Idle Spring; Vertical	1	5	14	
263	023-15072-002	Cover Stay; Paper Feed Drive	1	5	23	
264	023-15078-000	*Bracket; Timing Roller	1	5	3	
265	023-15080-005	Shaft; P.-F. Clutch	1	2	37	
266	023-15083-004	Bracket; Clutch; Pick-Up Roller	1	2	34	
267	023-15089-002	*Joint Collar; Drive	1	7	8	
268	023-15098-001	*Gear Base Block; Vertical Gear	1	5	11	
269	023-15103-005	*Cover; Ver. Print pos. Planet Gear	1	5	9	
270	023-15104-109	*Arm Front; Ver. Print Pos.	1	5	4	
271	023-15105-008	*Arm Rear; Ver. Print Pos.	1	5	6	
272	023-15108-201	Main Cover; Drive	1	7	2	
273	023-15115-003	*Cover; Paper Feed Drive	1	5	2	
274	023-15116-000	*Bracket; Vertical Centering Sensor	1	5	18	
275	023-15117-006	Bracket; Ver. Print Pos. Base	1	5	22	
276	023-15121-003	*Main Gear; Drive	1	7	11	
277	023-15123-006	*Spring; Pressure Solenoid	1	7	29	
278	023-15126-005	*Pressure Cam; Ledger	1	7	13	39x, 59x
279	023-15128-008	*Pressure Cam; A4	1	7	13	31x, 30x, 51x, 50x
280	023-15129-004	*Pressure Cam; B4	1	7	13	33x

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
281	023-15136-108	Pressure Lever Ass'y; Spring	1	7	20	
282	023-15140-105	Pressure Lever Ass'y; Cam	1	7	18	
283	023-15145-000	Spring; Cam Follower	1	7	19	
284	023-15150-003	Bracket; B Position Sensor	1	7	15	
285	023-15154-203	Base Bracket; Guide Roller Release	1	6	17	
286	023-15155-102	Hook Bracket; Spring; Sector Gear	1	6	23	
287	023-17003-008	Hanger Plate; Screen	1	10	4	
288	023-17004-306	Light Absorber Strip(328X18)	1	10	3	
289	023-17006-104	Drum Flange Rear	1	10	14	
290	023-17007-003	Drum Seal	2	10	7	
291	023-17008-107	Drum Shaft Joint	1	10	18	
292	023-17009-006	Flange Gear; Drum	1	10	13	
293	023-17010-004	Boss; A Position Compensation	1	10	19	
294	023-17011-000	Weight Balance R; A	1	10	15	
295	023-17012-007	Flange Front	1	10	8	
296	023-17014-000	Weight Balance F; A	1	10	9	
297	023-17018-005	Center Shaft; Drum	1	12	7	
298	023-17018-005	Center Shaft; Drum	1	13	7	
299	023-17024-005	*Cartridge Guide; Upper	1	11	15	
300	023-17025-001	Bottle Stay	1	11	1	
301	023-17026-105	*Bottle Set SW Ass'y	1	11	10	
302	023-17027-004	Cam; Squeegee Gap	2	12	4	
303	023-17027-004	Cam; Squeegee Gap	2	13	4	
304	023-17030-005	*Squeegee Roller	1	12	16	
305	023-17035-007	*Ink Drive Shaft	1	12	18	
306	023-17040-000	*Block R; Squeegee	1	12	28	
307	023-17040-000	*Block R; Squeegee	1	13	28	
308	023-17040-000	*Block R; Squeegee	1	13	28	
309	023-17041-007	*Block F; Squeegee	1	12	19	
310	023-17041-007	*Block F; Squeegee	1	13	19	
311	023-17041-007	*Block F; Squeegee	1	13	19	
312	023-17044-200	Drum Frame Rear	1	9	25	
313	023-17045-002	Slide Shaft	2	9	2	
314	023-17046-106	Side Frame; Drum	2	9	23	
315	023-17048-001	Drum Frame Front	1	9	1	
316	023-17054-001	Lock Spring; B Pos.	1	9	22	
317	023-17060-206	Bridge; Drum Rail	1	14	6	
318	023-17061-105	Drum Support Right; Rail	1	14	3	
319	023-17062-101	Drum Support Left; Rail	1	14	2	
320	023-17063-000	Slide Rail	2	14	1	
321	023-17063-000	Slide Rail	1	21	13	
322	023-17067-103	*Clamp Plate Base	1	10	20	
323	023-17068-002	*Clamp Plate	1	10	24	
324	023-17069-009	*Collar D12; Clamp	2	10	26	
325	023-17071-100	*Projection Plate	1	10	28	
326	023-17073-006	*Spring; Projection Plate	1	10	29	
327	023-17082-005	*Spring; Drum Lock	1	14	14	
328	023-17087-201	*Drum Lock Base	1	14	10	
329	023-17091-101	Cover; Front Frame; Drum	1	9	28	
330	023-17092-000	Drum Guide	4	9	24	
331	023-17094-003	liner Pom; Rear Frame; Drum	1	9	27	
332	023-17095-000	Drum Lever	1	9	4	
333	023-17116-007	Flange Support Roller; Drum	3	12	2	
334	023-17116-007	Flange Support Roller; Drum	3	13	2	
335	023-17125-103	*Side Frame R;Squeegee	1	12	27	
336	023-17125-103	*Side Frame R;Squeegee	1	13	27	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
337	023-17125-103	*Side Frame R;Squeegee	1	13	27	
338	023-17126-100	*Side Frame F;Squeegee	1	12	22	
339	023-17126-100	*Side Frame F;Squeegee	1	13	22	
340	023-17126-100	*Side Frame F;Squeegee	1	13	22	
341	023-17131-200	*Drum Solenoid Lever	1	14	13	
342	023-17132-002	*Shaft; Drum Solenoid Lever	1	14	12	
343	023-17133-106	Bracket; Drawer Connector; Drum	1	14	20	
344	023-17135-109	Drum Handle Cover	1	9	5	
345	023-17136-008	Plate; Drum Lock	1	9	10	
346	023-17138-108	Shaft; Drum Lock Plate	1	9	7	
347	023-17139-104	Pre-Pressure Spring; Right; Drum	2	14	5	
348	023-17139-104	Pre-Pressure Spring; Right; Drum	2	21	15	
349	023-17140-102	Pre-Pressure Spring; Left; Drum	2	14	4	
350	023-17140-102	Pre-Pressure Spring; Left; Drum	2	21	17	
351	023-17144-000	Spring; Drawer Connector	2	9	16	
352	023-17145-007	Ink Pump Ass'Y(18-22)	1	11	17	
353	023-17149-002	Flange Handle	1	10	11	
354	023-17154-103	Bracket; Drum Lock	1	9	6	
355	023-17155-002	*Cartridge Guide; Lower	1	11	6	
356	023-17156-009	*Holder; Rf-Tag Reader; Drum	1	11	14	
357	023-17157-102	*Bottle Catch	1	11	9	
358	023-17158-001	*Bracket; Ink Bottle Set SW	1	11	8	
359	023-17159-407	B Pos. Lock Lever	1	9	19	
360	023-17160-006	*Maintenance Cap	1	11	7	
361	023-17161-002	link Plate; Drum Lock	1	9	8	
362	023-17162-009	link Shaft; Drum Lock	1	9	9	
363	023-17164-109	*Bracket; Drum Lock Sensor	1	14	18	
364	023-17166-101	B Position Lock Release Guide	1	14	23	
365	023-17171-008	Drawer Connector Ass'y; Drum	1	9	15	
366	023-17172-004	*Wire Harness; Drum U Inner	1	11	22	
367	023-17175-003	Bracket; Drum-PCB	1	9	13	
368	023-17176-000	Cover; Rear Handle	1	9	26	
369	023-17177-006	Spring; Drum Lock link	1	9	12	
370	023-17178-304	Drum PCB	1	9	14	
371	023-17180-007	*Friction Sheet	1	10	22	
372	023-17181-100	*Clamp Magnet	1	10	21	
373	023-17187-001	*Master Release Arm; Clamp	1	10	30	
374	023-17189-101	Ink Blocking Sheet; B4	1	10	5	33x
375	023-17190-100	Ink Blocking Sheet; A4	1	10	5	31x, 30x, 51x, 50x
376	023-17191-106	*Release Lever; Clamp Plate	1	10	25	
377	023-17192-005	Stay; Drum Frame Front	2	9	18	
378	023-17197-007	Lock Ring 4	3	12	3	
379	023-17197-007	Lock Ring 4	3	13	3	
380	023-17197-007	*Lock Ring 4	1	24	8	
381	023-17197-007	*Lock Ring 4	3	26	31	
382	023-17197-007	*Lock Ring 4	3	27	30	
383	023-17197-007	*Lock Ring 4	1	28	52	
384	023-17203-201	Right Guide; Drum Frame Front	1	14	7	
385	023-17204-208	Left Guide; Drum Frame Front	1	14	8	
386	023-17207-002	Bracket; Drum Lever	2	9	3	
387	023-17209-005	*Squeegee Roller ;A4	1	13	16	31x, 30x, 51x, 50x
388	023-17211-000	*Ink Drive Shaft ; A4	1	13	18	31x, 30x, 51x, 50x
389	023-17212-006	Ink Distributor ;A4	1	11	2	31x,30x, 51x, 50x, 33x
390	023-17213-304	*Support Bracket F ;A4	1	13	30	31x, 30x, 51x, 50x
391	023-17214-203	*Support Bracket R ;A4	1	13	31	31x, 30x, 51x, 50x
392	023-17226-007	Ink Blocking Plate; Rear	1	12	15	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
393	023-17226-007	Ink Blocking Plate; Rear	1	13	15	
394	023-17227-003	Ink Blocking Plate; Front	1	12	10	
395	023-17227-003	Ink Blocking Plate; Front	1	13	10	
396	023-17228-000	Base ; Ink Blocking Plate (Rear)	1	12	14	
397	023-17228-000	Base ; Ink Blocking Plate (Rear)	1	13	14	
398	023-17229-006	Base ; Ink Blocking Plate (Front)	1	12	9	
399	023-17229-006	Base ; Ink Blocking Plate (Front)	1	13	9	
400	023-17230-004	*Squeegee Roller ; B4	1	13	16	33x
401	023-17234-204	*Support Bracket R ;B4	1	13	31	33x
402	023-17235-308	*Support Bracket F ;B4	1	13	30	33x
403	023-17239-001	*Ink Drive Shaft ; B4	1	13	18	33x
404	023-17242-002	*Plate; Metal; Drive Shaft; Drum	1	13	32	
405	023-17242-002	*Plate; Metal; Drive Shaft; Drum	1	13	32	
406	023-17244-005	Cover; B Position Lock Lever	1	9	20	
407	023-17246-008	Fixing Plate Drive ;A4	1	13	5	
408	023-17248-108	*Arm; RF-Tag Reader holder; Drum	1	11	12	
409	023-17249-007	*Shaft; Rf-Tag Reader; Drum	1	11	11	
410	023-17250-005	*Spring; Rf-Tag Reader; Drum	1	11	13	
411	023-17251-001	*Spring; Clamp Plate Base	2	10	23	
412	023-17254-000	Ground Plate; Ink	1	11	4	
413	023-17256-003	Seal Tape;A3	1	10	6	39x, 37x, 59x, 57x
414	023-17257-000	Seal Tape; B4	1	10	6	33x
415	023-17257-000	Light Absorber Strip(65X18)	2	10	32	33x
416	023-17258-006	Seal Tape;A4	1	10	6	31x, 30x, 51x, 50x
417	023-17261-007	Weight Balance R; B	1	10	16	
418	023-17262-003	Weight Balance F; B	1	10	10	
419	023-17263-000	Metal Stopper; Drum	1	10	17	
420	023-17273-005	B Position Lock Chip	1	9	21	
421	023-17275-008	*Spring; Clamp Plate Close	1	10	27	
422	023-17278-007	Base Bracket; B Position Lock Release	1	14	22	
423	023-17294-002	Fixing Plate; Drive Shaft A3	1	12	5	
424	023-17297-109	Screen Ass'y L	1	10	2	
425	023-17301-009	Seal; Setting Cartridge	1	9	30	
426	023-17302-005	Seal; Drum Set Position	2	9	29	
427	023-17302-005	Seal; Drum Set Position	2	14	9	
428	023-17305-004	Ink Replace Instruction Sticker; Pic	1	34	8	
429	023-17306-000	Seal; Ink Color	1	9	32	
430	023-17307-007	B Position Marking Sticker	1	9	31	
431	023-17307-007	B Position Marking Sticker	1	10	12	
432	023-17320-003	Seal; Ink; Black	1	9	32	
433	023-17321-301	Seal; Drum Type	1	9	33	
434	023-17329-108	*Doctor Roller; Assy ;A3	1	12	17	
435	023-17330-106	*Doctor Roller; Assy ;B4	1	13	17	33x
436	023-17331-102	*Doctor Roller Assy ;A4	1	13	17	31x, 30x, 51x, 50x
437	023-17333-008	Spring ; Doctor Roller	2	12	31	
438	023-17333-008	Spring ; Doctor Roller	2	13	35	
439	023-17334-004	*Adj. Plate R; Squeegee Gap	1	12	23	
440	023-17334-004	*Adj. Plate R; Squeegee Gap	1	13	23	
441	023-17334-004	*Adj. Plate R; Squeegee Gap	1	13	23	
442	023-17336-007	*Adj. Plate L; Squeegee Gap	1	12	24	
443	023-17336-007	*Adj. Plate L; Squeegee Gap	1	13	24	
444	023-17336-007	*Adj. Plate L; Squeegee Gap	1	13	24	
445	023-17341-000	*Collar ; Ink Drive Shaft	2	13	33	
446	023-17341-000	*Collar ; Ink Drive Shaft	2	13	33	
447	023-17342-007	Sheet ; Clamp Plate Base	2	10	33	
448	023-17343-208	Light Absorber Strip(35X18)	2	10	32	39x, 37x, 59x, 57x

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
449	023-17345-006	Ink Blocking Sheet ; A3	1	10	5	39x, 37x, 59x, 57x
450	023-17400-007	Guide ; Front Cover	2	14	27	
451	023-17403-006	Adj. Plate ; Drum Lock	1	9	34	
452	023-17420-300	Light Absorber Strip(88X18)	2	10	32	31x, 30x, 51x, 50x
453	023-17421-004	Support Plate A	1	13	37	
454	023-17422-000	Support Plate B	1	13	38	
455	023-19004-109	Support Shaft; Pressure	1	8	4	
456	023-19007-108	Pressure Shaft	1	8	1	
457	023-19012-004	Stopper; Pressure Roller	2	8	3	
458	023-19013-108	Paper Guide; Pressure	1	8	2	
459	023-21001-001	Release Plate	1	16	30	
460	023-21002-008	Separator	1	16	8	
461	023-21003-004	Adjustment Plate	1	16	12	
462	023-21005-007	Stopper; Separator	1	16	13	
463	023-21006-003	Shaft; Separator	1	16	9	
464	023-21007-000	Release Lever; Separator	1	16	10	
465	023-21009-002	*Adj. Plate; Air blow	1	16	29	
466	023-21010-000	*Spring; Adj. Valve; Air Blow	1	16	28	
467	023-21011-104	*Adj. Valve; Air blow	1	16	27	
468	023-21013-204	*Cylinder Base Bracket; Air pump	1	16	17	
469	023-21016-106	Air Hose; Separator	1	16	6	
470	023-21017-102	*Base; Separation Fan	1	16	1	
471	023-21018-001	*Air Nozzle	2	16	3	
472	023-21021-002	*Cylinder; Air Pump	1	16	21	
473	023-21023-102	*Timing Plate; Air Pump	1	16	19	
474	023-21027-000	Spacer; Cylinder Base; Air Pump	1	16	16	
475	023-21302-001	*Suction Box; Suction	1	17	25	
476	023-21302-001	*Suction Box; Suction	1	17-A	25	
477	023-21304-004	*Face Cover; Suction	1	17	24	
478	023-21304-004	*Face Cover; Suction	1	17-A	24	
479	023-21312-309	*Base Frame;Suction	1	17	30	
480	023-21312-309	*Base Frame;Suction	1	17-A	31	
481	023-21321-006	*M Wing Rear	1	17	9	
482	023-21321-006	*M Wing Rear	1	17-A	9	
483	023-21322-002	*M Wing Front	1	17	4	
484	023-21322-002	*M Wing Front	1	17-A	4	
485	023-21323-009	*S Wing; Rear	1	17	10	
486	023-21323-009	*S Wing; Rear	1	17-A	10	
487	023-21324-005	*S Wing; Front	1	17	5	
488	023-21324-005	*S Wing; Front	1	17-A	5	
489	023-21325-001	*Shaft; Wing Rear	1	17	11	
490	023-21325-001	*Shaft; Wing Rear	1	17-A	11	
491	023-21328-000	*Spring; Wing Front	2	17	7	
492	023-21328-000	*Spring; Wing Front	2	17-A	7	
493	023-21329-104	*link Plate; S Wing	1	17	14	
494	023-21329-104	*link Plate; S Wing	1	17-A	14	
495	023-21331-001	*link Plate; M Wing	1	17	15	
496	023-21331-001	*link Plate; M Wing	1	17-A	15	
497	023-21332-008	*Spring; Wing Rear	2	17	8	
498	023-21332-008	*Spring; Wing Rear	2	17-A	8	
499	023-21335-007	*Shaft; Wing Front	1	17	6	
500	023-21335-007	*Shaft; Wing Front	1	17-A	6	
501	023-21342-003	*Metal Slit; Motor	1	17	26	
502	023-21342-003	*Metal Slit; Motor	1	17-A	26	
503	023-21342-003	*Metal Slit; Motor	1	28	55	
504	023-21351-100	*Drive Shaft; Suction	1	17	17	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
505	023-21351-100	*Drive Shaft; Suction	1	17-A	17	
506	023-21361-008	*Shaft; Belt Driven Pulley	1	17	2	
507	023-21361-008	*Shaft; Belt Driven Pulley	1	17-A	2	
508	023-21371-003	*Roller Plate; Transfer Belt	1	17	12	
509	023-21371-003	*Roller Plate; Transfer Belt	1	17-A	12	
510	023-21381-106	Cover Plate; Suction	1	17	34	
511	023-21381-106	Cover Plate; Suction	1	17-A	44	
512	023-21382-005	*Wing Cam; Suction	1	17	31	
513	023-21383-001	*Wing Knob; Suction	1	17	32	
514	023-21384-008	Cover plate; suction cover	1	17-A	43	5xx
515	023-21385-101	Support; Wing Knob; Suction	1	17	33	
516	023-21391-004	Mount Bracket Front; Suction Unit	1	17	39	
517	023-21391-004	Mount Bracket Front; Suction Unit	1	17-A	48	
518	023-21392-000	Mount Bracket Rear; Suction Unit	1	17	40	
519	023-21392-000	Mount Bracket Rear; Suction Unit	1	17-A	49	
520	023-21393-007	*light Absorber Strip(35X28)	1	16	4	
521	023-21401-000	*Bracket; Paper Receiving sensor	1	17	21	
522	023-21401-000	*Bracket; Paper Receiving sensor	1	17-A	21	
523	023-21404-106	*Base Bracket; Wing motor	1	17-A	37	5xx
524	023-21406-001	*Boss; Wing cam shaft; F6x9x6:12x1.5	1	17-A	32	5xx
525	023-21408-004	*MW cam; Wing	1	17-A	34	5xx
526	023-21409-108	*SW cam; Wing	1	17-A	36	5xx
527	023-21410-009	*W cam shaft; Wing	1	17-A	33	5xx
528	023-21411-005	*W drive shaft; Wing motor	1	17-A	40	5xx
529	023-21601-106	*Paper Receiving Tray	1	18	20	
530	023-21602-200	*Side Frame F; P.-Rcv.-T.	1	18	18	
531	023-21603-206	*Side Frame R; P.-Rcv.-T.	1	18	17	
532	023-21606-205	*Paper Guide F; P.-Rcv.-T.	1	18	10	
533	023-21607-201	*Paper Guide R; P.-Rcv.-T.	1	18	9	
534	023-21608-003	*Back Stopper; P.-RCV.-T	1	18	1	
535	023-21612-108	**Flap; P.-Rcv.-T	12	18	13	
536	023-21613-007	**Balancer; Flap; P.-RCV.-T.	12	18	14	
537	023-21614-003	**Flap Cover; P.-Rcv.-T.	4	18	11	
538	023-21615-204	**Holder; Flap; P.Rcv.-T	4	18	12	
539	023-21621-000	*Lever; Paper Guide; P.-Rcv.-T.	3	18	8	
540	023-21622-006	Magnet Catch; P.-Rcv.-T.	1	1	27	
541	023-21633-008	*Ground Plate; Slide Rail; P.Rcv.-T.	1	18	19	
542	023-21634-004	*Shaft; Fence	3	18	3	
543	023-21635-000	*Slide Base; P.Rcv.-T.	3	18	4	
544	023-21636-007	*Slide Plate(Upper); P.-Rcv.-T.	3	18	7	
545	023-21637-003	*Slide Plate(Lower); P.-Rcv.-T.	3	18	5	
546	023-21638-000	*Plate Spring; P.-Rcv.-T	6	18	6	
547	023-21639-006	*Slide Rail; Paper Guide; P.-Rcv.-T.	2	18	15	
548	023-21640-004	*Slide Rail; Paper Stopper; P.-Rcv.-T.	1	18	16	
549	023-21641-108	Support Plate F; P.-Rcv.-T.	1	1	25	
550	023-21642-104	Support Plate R; P.-Rcv.-T.	1	1	26	
551	023-21643-003	Bracket; Magnet Catch; P.-Rcv.-T.	1	4	35	
552	023-21643-003	*Bracket; Magnet Catch; P.-RCV.-T.	1	18	22	
553	023-21701-003	*Wire Harness; Suction Unit	1	17	29	
554	023-21702-000	*Wire Harness; Separation Fun	1	16	5	
555	023-21703-006	*Wire Harness; Ejection Sensor	1	17	23	
556	023-21703-006	*Wire Harness; Ejection Sensor	1	17-A	23	
557	023-21707-001	*Wire Harness; Suction unit RZ5	1	17-A	30	5xx
558	023-21801-008	Seal; Folding Tray Inst.; P.-Rcv.-T.	1	17	36	
559	023-21801-008	Seal; Folding Tray Inst.; P.-Rcv.-T.	1	17-A	46	
560	023-21802-004	*Seal; P.-Pcv.-T:Folding Pic	1	18	21	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
561	023-21806-000	Seal; Jump Wing Inst; Metric	1	17	37	
562	023-21807-006	Seal; Jump Wing Inst; Inch	1	17	37	
563	023-24002-106	*Side Frame F; M.-Rmv.	1	28	1	
564	023-24009-003	*Side Frame R; M.-Rmv.	1	28	2	
565	023-24016-107	*Stay A; M.-Rmv.	1	28	3	
566	023-24017-103	*Stay B; M.-Rmv.	1	28	4	
567	023-24021-208	*Housing; M.-Rmv.	1	26	1	
568	023-24021-208	*Housing; M.-Rmv.	1	27	1	
569	023-24025-203	*Pulley Shaft; M.-Rmv	1	26	18	
570	023-24026-005	*Bracket Master Loading Sensor A3	1	26	25	
571	023-24027-001	*Bracket; Loading Sensor	1	27	24	
572	023-24030-002	*Master Removal Roller	1	28	11	39x, 37x, 59x, 57x
573	023-24035-209	*Disposal Box	1	25	2	39x, 37x, 59x, 57x
574	023-24036-000	*Cover; Disposal Box	1	25	1	
575	023-24043-007	*Bracket; Master removal unit	1	28	5	
576	023-24056-001	*Bracket; M.-RMV. Sensor	1	26	27	
577	023-24056-001	*Bracket; M.-RMV. Sensor	1	27	26	
578	023-24057-008	*Master Removal Roller (UP)	1	26	17	
579	023-24058-004	*Spring A Front; M-Rmv. Roller	1	26	20	
580	023-24058-004	*Spring A Front; M-Rmv. Roller	1	27	19	
581	023-24059-000	*Spring A Rear; M-Rmv Roller	1	26	21	
582	023-24059-000	*Spring A Rear; M-Rmv Roller	1	27	20	
583	023-24061-102	*Pulley; M-Rmv	8	26	13	
584	023-24061-102	*Pulley; M-Rmv	6	27	12	
585	023-24062-109	*Plate; M.-Rmv. Pulley	4	26	12	
586	023-24062-109	*Plate; M.-Rmv. Pulley	3	27	11	
587	023-24063-202	*Shaft; Pulley; M-Rmv	4	26	14	
588	023-24063-202	*Shaft; Pulley; M-Rmv	3	27	13	
589	023-24066-007	*Shaft; Plate Pulley; M-Rmv	1	26	10	
590	023-24067-003	*Spring; Plate Pulley; M-Rmv	4	26	15	
591	023-24067-003	*Spring; Plate Pulley; M-Rmv	3	27	14	
592	023-24074-000	*Bracket; FG Sensor; Compression Plate	1	28	46	
593	023-24084-005	*Shaft H; Gear	1	28	35	
594	023-24091-001	*Bracket; Compressing Motor	1	28	38	
595	023-24097-107	*Gear Cover; Compression Plate	1	28	42	
596	023-24099-207	*M Compression Plate	1	28	6	39x, 37x, 59x, 57x
597	023-24100-108	*Wire Harness; M-Rmv	1	26	32	
598	023-24100-108	*Wire Harness; M-Rmv	1	27	31	
599	023-24101-007	*Wire Harness M; M-Rmv Unit	1	28	53	
600	023-24102-003	*Wire Harness U; M-Rmv Unit	1	28	54	
601	023-24103-000	Cover; M.-Rmv.	2	25	8	
602	023-24106-009	*Master Removal Roller II	1	28	11	31x, 30x, 33x, 51x, 50x
603	023-24107-005	*Master Removal Roller (Up) II	1	27	16	
604	023-24108-001	*Shaft II; Plate Pulley; M-Rmv	1	27	9	
605	023-24109-202	*Pulley Shaft II; M.-Rmv	1	27	17	
606	023-24110-200	*Disposal Box II	1	25	2	31x, 30x, 33x, 51x, 50x
607	023-24111-207	*M Compression Plate II	1	28	6	31x, 30x, 33x, 51x, 50x
608	023-24113-005	*Release Lever; M.-Rmv.	1	28	23	
609	023-24117-000	*Knob; Release Lever; M.-Rmv.	1	28	24	
610	023-24118-007	*Spring; M.-Rmv Release Lever	1	28	26	
611	023-24119-003	*Guide Plate; Disposal Box	1	28	20	
612	023-24120-001	*Manual Compression Lever	1	28	21	
613	023-24121-008	*Link Plate; M.-Rmv.	1	28	19	
614	023-24124-007	*Hook Shaft; M Removal Roller Lower	1	28	12	
615	023-24125-100	*Holding Plate Front; M.-Rmv.	1	28	13	
616	023-24126-000	*Roller; Hook; M.-Rmv.	2	28	16	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
617	023-24127-103	*Holding Plate Rear; M.-Rmv.	1	28	14	
618	023-24128-002	*Bracket ; Housing; M.-RMV.	2	26	2	
619	023-24128-002	*Bracket ; Housing; M.-RMV.	2	27	2	
620	023-24129-009	*Holding Plate; Pulley; M.-Rmv.	4	26	11	
621	023-24129-009	*Holding Plate; Pulley; M.-Rmv.	3	27	10	
622	023-24130-007	*Hook F; M-Rmv Roller	1	26	7	
623	023-24130-007	*Hook F; M-Rmv Roller	1	27	6	
624	023-24131-003	*Hook R; M-Rmv Roller	1	26	8	
625	023-24131-003	*Hook R; M-Rmv Roller	1	27	7	
626	023-24132-000	Bracket; M.-Rmv.	2	25	7	
627	023-24133-103	*Bracket; Gear; M.-RMV.	1	28	32	
628	023-24134-100	*Spring; Safety SW; M-Rmv Unit	1	28	48	
629	023-24135-009	*Set Plate;Safety SW; M.-Rmv.	1	28	49	
630	023-24136-005	*Stopper Boss	1	28	25	
631	023-24137-001	*Spring Hook R; Trans. Roller; M-Rmv	1	26	9	
632	023-24137-001	*Spring Hook R; Trans. Roller; M-Rmv	1	27	8	
633	023-24140-207	*Box Lever; Disposal box	1	25	3	
634	023-24143-109	*Seal; Disposal Instruction; Pic	1	25	6	
635	023-24144-008	*Shaft; M-Rmv Guide	1	26	3	
636	023-24144-008	*Shaft; M-Rmv Guide	1	27	3	
637	023-24145-004	*M-Rmv Guide A	1	26	4	
638	023-24145-004	*M-Rmv Guide A	2	27	4	
639	023-24146-000	*M-Rmv Guide B	2	26	5	
640	023-24147-007	*Spring; M-Rmv Guide	3	26	6	
641	023-24147-007	*Spring; M-Rmv Guide	2	27	5	
642	023-24148-003	*Handle Spring; Disposal Box	1	25	4	
643	023-26000-003	*Bracket plate; Clamp drive	1	15	4	
644	023-26005-005	*Bracket ;Clamp Sensor	1	15	9	
645	023-26018-000	*Wire Harness; Clamp Unit	1	15	11	
646	023-28001-007	Bracket Front Upper; Rail; M.-M.	1	21	14	
647	023-28002-003	Bracket Rear Upper; Rail; M.-M.	1	21	16	
648	023-28003-000	Bracket; Slide Lock; M.-M.	1	21	33	
649	023-28006-106	*Master Flange; Front	1	23	45	
650	023-28007-005	**Master Flange; Rear	1	23	63	
651	023-28010-006	Guide Bracket;Wire Harness; M.-M.	1	21	29	
652	023-28012-009	Bracket Rear Bottom; Rail; M.-M.	1	21	20	
653	023-28013-200	*Bottom Stay; M.-M Unit	1	23	14	
654	023-28014-109	*Upper Stay; M.-M Unit	1	24	5	
655	023-28015-008	*Box Stay; M.-Making	1	23	21	
656	023-28016-004	*Bracket; PCB; M.-Making	1	21	6	
657	023-28021-008	**Plate T-Rear; TPH	1	22	35	
658	023-28022-004	**Plate T-Front; TPH	1	22	36	
659	023-28024-007	**Holding roller; TA3	1	22	39	39x, 37x, 59x, 57x
660	023-28036-102	*Shaft; M Set Guide Plate	1	23	37	
661	023-28037-109	**Write Roller; D23-A3	1	23	25	39x, 37x, 59x, 57x
662	023-28044-008	*Shaft; M. Loading Roller	1	24	10	
663	023-28045-004	*Stocker Roller; A3	1	23	33	39x, 37x, 59x, 57x
664	023-28046-000	*M. Loading Roller; A3	1	24	7	39x, 37x, 59x, 57x
665	023-28048-003	*Load Roller; A3	1	24	13	39x, 37x, 59x, 57x
666	023-28051-004	*Guide Plate; Stocker	1	24	14	
667	023-28052-000	*Hook Spring; Stoker Guide Plate	1	24	15	
668	023-28053-104	*Cover; Master Pos. Sensor	1	24	46	
669	023-28057-002	**Cutter Guide Upper; A3	1	24	32	39x, 37x, 59x, 57x
670	023-28058-106	**Cutter Guide Lower; A3	1	24	33	39x, 37x, 59x, 57x
671	023-28070-009	*Handle; M.-M.	1	23	4	
672	023-28071-102	*Hook Right; Handle; M.-M.	1	23	7	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
673	023-28072-001	*Spring; Hook; M-M	2	23	9	
674	023-28073-008	*Lower Stay; M.-Making	1	23	17	
675	023-28074-101	*Reinforcement Plate; M.-M. Frame	1	23	16	
676	023-28076-007	*Shaft; Drawer Connector; M.-M Unit	2	24	3	
677	023-28078-000	*Spring; Drawer Connector	2	22	63	
678	023-28082-007	*Positioning Pin; Front; M.-M	2	23	13	
679	023-28084-000	Bracket Front Bottom; Rail; M.-M.	1	21	19	
680	023-28085-006	Bracket; Drawer Connector; M.-M.	1	21	25	
681	023-28086-002	Positioning Pin; Rear; M.-M	2	21	23	
682	023-28092-207	*Rear Frame; M.-M Unit	1	23	1	
683	023-28093-009	**Shaft; Load Roller Upper; A3	1	24	37	39x, 37x, 59x, 57x
684	023-28114-103	*M Set Guide Plate B; A3	1	23	35	39x, 37x, 59x, 57x
685	023-28115-100	*Spring B Front; M Set Guide Plate	1	23	38	
686	023-28117-005	Guide Upper; Flexible Wire; M.-M	1	21	28	
687	023-28119-008	Cover; M.-M. Unit Safety SW	1	21	39	
688	023-28121-002	Hook Stopper; Handle; M.-M.	1	21	35	
689	023-28122-106	Shaft; Stopper; M.-M	1	21	34	
690	023-28124-109	*Master Roll Holder; Bottom	1	23	19	
691	023-28130-001	**Fulcrum Plate; Master Roll Holder	1	23	52	
692	023-28131-008	**Shaft; Master Roll Holder	1	23	53	
693	023-28132-004	**Lever Shaft; Master Roll Holder	1	23	54	
694	023-28133-000	**Lever; Master roll Holder	1	23	56	
695	023-28134-007	**Hook; Master Roll Holder	1	23	58	
696	023-28135-003	**Lever Spring; Master Roll Holder	1	23	57	
697	023-28136-000	**Guide Spring; Master Holder	1	23	60	
698	023-28141-003	*Fulcrum Lever; Stoker	1	24	21	
699	023-28148-008	*Hook Shaft; M.-M Unit	2	24	4	
700	023-28150-207	*Frame; M-M Upper Unit	1	22	1	
701	023-28151-106	*Pivot Support Plate Front; M.-M Up	1	22	14	
702	023-28152-005	*Spring Hook Bracket Rear; TPH Pressure	1	22	7	
703	023-28154-105	*Shaft; M.-M Upper Unit	1	22	10	
704	023-28155-004	*Spring Front; M.-M Up	1	22	13	
705	023-28156-000	*Spring Rear; M.-M Up	1	22	8	
706	023-28157-007	*Shaft; Handle; M-M Up	1	22	2	
707	023-28158-100	*Pivot Shaft; TPH	1	22	23	
708	023-28159-301	*Pressure Lever Bracket; M.-M Up	2	22	25	
709	023-28160-008	*Pressure Release Plate; TPH Press	1	22	24	
710	023-28161-004	*TPH Pressure Spring 40	2	22	26	39x, 37x, 59x, 57x
711	023-28162-000	*Bottom Cover; TPH; M.-M.	1	22	21	
712	023-28165-000	*Cam; TPH Pressure	1	22	45	
713	023-28166-006	*Shaft; TPH Pressure Cam	1	22	47	
714	023-28168-009	*Bracket; TPH pressure motor	1	22	44	
715	023-28172-006	*Holding Plate; Worm Gear	1	22	58	
716	023-28173-100	*TPH Alignment Shaft	1	22	27	
717	023-28174-300	**TPH holder; TA3	1	22	29	39x, 37x, 59x, 57x
718	023-28175-005	**Bracket ; TPH Brush; TA3	1	22	37	39x, 37x, 59x, 57x
719	023-28177-105	*Safety Stopper; M.-M Up	1	22	15	
720	023-28184-004	**Shaft; Stoker roller Upper; A3	1	24	34	39x, 37x, 59x, 57x
721	023-28190-101	**M Transfer Roller; Wide Width	2	24	35	
722	023-28191-108	**M Transfer Roller; Middle width	4	24	36	39x, 37x, 59x, 57x
723	023-28191-108	**M Transfer Roller; Middle width	2	24	36	31x, 30x, 33x, 51x, 50x
724	023-28192-104	**M Transfer Roller; Short Width	2	24	38	
725	023-28194-107	*Holding Plate R; Stoker Guide Plat.	1	24	16	
726	023-28195-006	**Bracket; Write Pulse Motor	1	21	1	
727	023-28196-002	*Bracket; Load Pulse Motor	1	24	27	
728	023-28199-001	Guide Lower; Flexible Wire; M.-M	1	21	27	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
729	023-28200-000	Guide Roller; Wire Harness; M.-M.	1	21	32	
730	023-28202-100	Bracket; M.-M. Unit Safety SW	1	21	40	
731	023-28204-005	Bracket Upper; Junction PCB; M.-M.	1	30	2	
732	023-28206-105	*Hook Left; Handle; M.-M.	1	23	6	
733	023-28207-004	*Actuator plate; M.-M. Set Sensor	1	23	8	
734	023-28209-007	*Spring; Handle; M-M	1	23	12	
735	023-28210-005	*Master Guide Roller	2	23	20	
736	023-28213-004	*Shaft; Gear; TPH lift Motor	2	22	51	
737	023-28214-108	*Bracket; Set sensor; M.-M Upper	1	24	48	
738	023-28215-201	*Pushing Plate F; Set-Guide Plate	1	22	11	
739	023-28218-103	M.-Making Junction PCB	1	30	1	
740	023-28221-007	Bracket Lower; Junction PCB; M.-M.	1	30	3	
741	023-28222-003	Front Cover; M.-M. Unit	1	21	10	
742	023-28228-109	*Spring B Rear; M Set Guide Plate	1	23	36	
743	023-28229-105	*Stopper Front; M.-M Unit	1	23	39	
744	023-28231-002	*Stopper; M.-M. Close	1	23	48	
745	023-28232-009	*Base Bracket; Stopper; M.-M. Close	1	23	47	
746	023-28233-005	*Stopper Spring; M.-M Close	1	23	50	
747	023-28236-004	*Hook Lever; M.-M Up	1	22	3	
748	023-28237-000	*Hook; M.-M Up	2	22	4	
749	023-28238-104	Flexible Wire; M.-M	1	21	31	
750	023-28239-208	*Wire Harness; M.-M Unit	1	21	9	
751	023-28240-206	*Wire Harness; M.-M Upper Unit	1	22	59	
752	023-28242-101	*Wire Harness; M Pos. Sensor	1	24	51	
753	023-28244-201	*TPH Drawer Connector U; M.-M Up	1	22	65	
754	023-28245-003	*Reinforce Plate; Lower; M.-M. Unit	1	23	18	
755	023-28247-103	*Stopper Rear; M.-M Unit	1	23	40	
756	023-28250-309	*Master Making PCB	1	21	8	
757	023-28251-003	*Slide Guide 2; M.-M.	1	23	15	
758	023-28252-107	*Pivot Support Plate Rear; M.-M Up	1	22	9	
759	023-28253-103	*Pushing Plate R; Set-Guide Plate	1	22	6	
760	023-28259-101	*M Set Guide Plate B; B4		23	35	33x
761	023-28263-109	**Cutter Guide Lower; B4	1	24	33	31x, 30x, 51x, 50x
762	023-28265-004	**Cutter Guide Upper; B4	1	24	32	31x, 30x, 51x, 50x
763	023-28271-004	*Stocker Roller; B4	1	23	33	31x, 30x, 33x, 51x, 50x
764	023-28272-000	**Shaft; Stoker roller Upper; B4	1	24	34	31x, 30x, 33x, 51x, 50x
765	023-28284-009	*Load Roller; B4	1	24	13	31x, 30x, 33x, 51x, 50x
766	023-28285-005	*M. Loading Roller; B4	1	24	7	31x, 30x, 33x, 51x, 50x
767	023-28286-001	**Shaft; Load Roller Upper; B4	1	24	37	31x, 30x, 33x, 51x, 50x
768	023-28289-000	*Cutter Cover 2	1	24	45	31x, 30x, 51x, 50x
769	023-28297-402	**TPH holder; TB4	1	22	29	31x, 30x, 33x, 51x, 50x
770	023-28298-000	**Bracket; TPH Brush; TB4	1	22	37	31x, 30x, 33x, 51x, 50x
771	023-28299-006	**Holding roller; TB4	1	22	39	31x, 30x, 33x, 51x, 50x
772	023-28302-104	*M Set Guide Plate B; A4	1	23	35	31x, 30x, 51x, 50x
773	023-28303-100	**Write Roller; D23-B4	1	23	25	31x, 30x, 33x, 51x, 50x
774	023-28304-107	*Collar; Master Holder ;A4	1	23	67	31x, 30x, 51x, 50x
775	023-28310-000	*Master Guide Plate A; B4(D23)	1	24	42	31x, 30x, 51x, 50x
776	023-28315-001	**Protection Plate; TPH connector TA3	1	22	32	
777	023-28317-004	*Master Set Guide Bar	1	24	47	33x, 39x, 37x, 59x, 57x
778	023-28323-004	*Cutter Cover	1	24	45	33x, 39x, 37x, 59x, 57x
779	023-28327-107	*Master Guide Plate A; A3(D23)	1	24	42	33x, 39x, 37x, 59x, 57x
780	023-28328-103	*Gear Cover; M.-M UP	1	22	60	
781	023-28336-009	*Handle Stopper; M.-M.	1	23	10	
782	023-28338-001	*Shaft; Handle; M-M	1	23	3	
783	023-28339-008	Spring; Stopper; M.-M	1	21	36	
784	023-28340-006	*Guide; Master Loading	1	24	40	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
785	023-28341-002	*Bracket Rear; Write Roller	1	23	31	
786	023-28342-106	*Bracket Front; Write Roller	1	23	29	
787	023-28343-005	*Guide; Handle; M.-M.	1	23	5	
788	023-28344-001	*TPH Pressure Spring 23	2	22	26	31x, 30x, 51x, 50x
789	023-28353-000	Holding Plate; Wire Harness; M.-M.	1	21	30	
790	023-28356-000	*Hook Spring; M.-M Up	1	22	5	
791	023-28357-103	*Collar; Master Holder ;B4	1	23	67	33x
792	023-28358-002	Stopper; M.-M. Unit	1	1	23	
793	023-28361-003	*Pressure Detection Plate; TPH	1	22	49	
794	023-28367-001	*Guide Block; M.-M. Unit Mount	2	24	6	
795	023-28371-009	**Master Holder Base; A3	1	23	55	39x, 37x, 59x, 57x
796	023-28372-005	**Damper Case; Master Holder	1	23	61	
797	023-28374-008	**Master Holder Base; B4	1	23	55	33x
798	023-28375-004	**Master Holder Base; A4	1	23	55	31x, 30x, 51x, 50x
799	023-28376-108	*Bracket; Gear Shaft; M Loading	1	24	24	
800	023-28377-007	*Rear Cover; M.-M. Unit	1	23	51	
801	023-28378-100	*Support Plate; Rear Frame; M.-M	1	23	65	
802	023-28379-000	*Master Set Guide Bar B4	1	24	47	31x, 30x, 51x, 50x
803	023-28380-008	*Pressure Plate; Write Roller	1	23	32	
804	023-28380-008	*Pressure Plate; Write Roller	1	24	20	
805	023-28381-004	*Bracket Front; TPH Pressure spring	1	22	12	
806	023-28382-205	*Bracket; TPH Drawer Connector UP	1	22	62	
807	023-28383-007	*Fulcrum Plate; Master Stoker	1	24	19	
808	023-28387-002	**TPH Pressure Assist Plate; B4	2	22	30	31x, 30x, 33x, 51x, 50x
809	023-28394-009	**Reinforcement Plate; Master Holder Base	1	23	59	
810	023-28396-001	*Bracket; Stopper; M Set Guide Plate	1	23	41	
811	023-28397-008	*Shaft; Stopper; M Set Guide Plate	1	23	42	
812	023-28398-004	*Stopper; M Set Guide Plate	1	23	43	
813	023-28399-000	*Stopper Spring; M Set Guide Plate	1	23	44	
814	023-28401-005	*Bracket Bottom; Master Making PCB	1	21	7	
815	023-28402-001	Slide Rail 2	1	21	18	
816	023-28403-008	*Spring; Safety SW /Drum&Mm	1	14	15	
817	023-28403-008	Spring; Safety SW /Drum&Mm	1	21	41	
818	023-28404-004	*Bracket; M.-M. Unit set SW	1	14	16	
819	023-28404-004	Bracket; M.-M. Unit Set SW	1	21	42	
820	023-28405-108	*Bracket; De-Elect. Brush; M Loading	1	24	11	
821	023-28408-000	Protection Plate; Wire Harness; M.-M.	1	1	24	
822	023-28409-103	*Guide plate B; Master Set Guide Bar	1	24	53	31x, 30x, 51x, 50x
823	023-28410-004	*De-Electricity Brush ; A3	1	22	22	
824	023-28411-000	**De-electricity Brush; TPH A3	1	22	38	39x, 37x, 59x, 57x
825	023-28412-104	**TPH Boss	2	22	31	
826	023-28413-003	**TPH Pressure Assist Plate; A3	2	22	30	39x, 37x, 59x, 57x
827	023-28414-000	**De-electricity Brush; TPH B4	1	22	38	31x, 30x, 33x, 51x, 50x
828	023-28415-006	*De-Electricity Brush; M Loading	1	24	12	
829	023-28417-009	*Lower Bracket; Master End Sensor	1	23	23	
830	023-28418-005	*Upper Bracket A3; Master End Sensor	1	22	17	39x, 37x, 59x, 57x
831	023-28419-001	*Upper Bracket B4; Master End Sensor	1	22	17	33x
832	023-28420-000	*Upper Bracket A4; Master End Sensor	1	22	17	31x, 30x, 51x, 50x
833	023-28421-103	*Cutter Unit(rotary)	1	24	41	33x, 39x, 37x, 59x, 57x
834	023-28422-002	*Cutter Unit(Shuttle)	1	24	41	31x, 30x, 51x, 50x
835	023-28423-009	Seal; TPH; Pic (Not included in assembly)	1	22	68	EP,UP
836	023-28424-005	Seal; TPH; Eng (Not included in assembly)	1	22	68	AN,AW,UI
837	023-28426-105	*Seal; Master Making Unit	1	22	16	
838	023-28427-004	*Cover; Master End Sensor	1	22	19	
839	023-28428-000	Seal; Master Making Unit Cover	1	21	12	
840	023-28431-001	*light Absorber Strip(21X15)	1	22	18	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
841	023-28432-105	**Write Roller liner 3	1	23	27	
842	023-28433-004	*Shaft; Gear 8; TPH lift Motor	1	22	53	
843	023-28435-007	*Spring; TPH Alignment Shaft	1	22	67	
844	023-28436-003	**Cutter Guide Upper; B4R	1	24	32	33x
845	023-28437-000	**Cutter Guide Lower; B4R	1	24	33	33x
846	023-28439-002	*Adjuster Collar; Master Holder	1	23	69	31x, 30x, 33x, 51x, 50x
847	023-28440-000	*Spring Collar; Master Holder	1	23	68	31x, 30x, 33x, 51x, 50x
848	023-28441-007	*TPH Pressure Spring 30	2	22	26	33x
849	023-28942-103	*Seal; TPH Cleaning; Pic.	1	22	61	
850	023-28944-009	Seal;Setting Master;Pic.	1	21	11	
851	023-28946-001	*Seal; Pos. Leading Edge Of Master; Pic	1	24	43	
852	023-28955-000	Seal; M.-M. Unit Release; Pic	1	34	10	EP,UP
853	023-28958-000	Seal; M.-M. Unit Release; Eng	1	34	10	UI, AW, AN
854	023-30002-002	Hinge Bracket; Flat Bed	2	19	37	
855	023-30003-009	Bracket; FB Scanner	6	19	35	
856	023-30006-008	*Actuator Plate; Stage cover Actuator	1	33	5	
857	023-30007-004	*Frame; Stage Cover	1	33	3	
858	023-30008-000	*Stage Cover	2	33	1	
859	023-30070-008	*Stage Cover Hinge Ass'y 3	2	33	2	
860	023-30071-004	*Bracket; Stage cover closing sensor	1	19	31	
861	023-30073-007	*Actuator 2; Scanner	1	19	33	
862	023-30075-000	Stage Pad 2; Stage Cover	1	33	6	
863	023-34004-107	Front Cover	1	34	7	
864	023-34005-200	Front Door	1	34	1	
865	023-34006-002	Hinge Top; Front Door	1	34	12	
866	023-34007-009	Hinge Bottom; Front Door	1	34	13	
867	023-34015-001	Cover; Master Loading	1	34	11	
868	023-34018-108	Emblem; RZ390UI	1	34	2	RZ390UI
869	023-34020-307	Rear Cover	1	34	22	3xx
870	023-34021-001	Side Cover; Drive Side	2	34	19	
871	023-34024-108	Bracket Lower; Rear Cover	2	34	23	
872	023-34025-007	Bracket Left; Scanner Rear Cover	1	34	24	
873	023-34026-003	Bracket Right; Scanner Rear Cover	1	34	25	
874	023-34030-000	Side Cover; Paper Ejection Side	1	34	15	
875	023-34032-100	Side Cover; Paper Feeding Side	1	34	17	
876	023-34040-103	Cover; Scanner; Paper Feeding Side	1	34	18	
877	023-34041-100	Cover; Scanner; P.-Rcv. Side	1	34	16	
878	023-34042-106	Rear Cover; Scanner	1	34	20	
879	023-34043-005	Cover; Download Card	1	34	21	
880	023-34051-105	Bracket; Front Cover SW	1	29	19	
881	023-34051-105	Bracket; Front Cover SW	1	29-A	21	
882	023-34053-205	Bracket; Sensor; Front Cover	1	29	21	
883	023-34053-205	Bracket; Sensor; Front Cover	1	29-A	23	
884	023-34054-007	Seal; Magnet Adjuster	1	34	27	
885	023-34055-100	Black sheet; Front door set sensor	1	34	26	
886	023-34061-100	Emblem; RZ370AW	1	34	2	RZ370AW
887	023-34062-107	Emblem; RZ370AN	1	34	2	RZ370AN
888	023-34063-103	Emblem; RZ370EP	1	34	2	RZ370EP
889	023-34064-100	Emblem; RZ370UP	1	34	2	RZ370UP
890	023-34065-106	Emblem; RZ370C	1	34	2	RZ370C
891	023-34066-102	Emblem; RZ310UI	1	34	2	RZ310UI
892	023-34067-109	Emblem; RZ300EP	1	34	2	RZ300EP
893	023-34101-200	Rear Cover; RZ5	1	34	22	5xx
894	023-34103-008	Emblem; RZ570EP	1	34	2	RZ570EP
895	023-34104-004	Emblem; RZ570UP	1	34	2	RZ570UP
896	023-34105-000	Emblem; RZ570AW	1	34	2	RZ570AW

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
897	023-34106-007	Emblem; RZ570AN	1	34	2	RZ570AN
898	023-34109-006	Emblem; RZ500EP	1	34	2	RZ500EP
899	023-34110-004	Emblem; RZ510UI	1	34	2	RZ510UI
900	023-34111-000	Emblem; RZ590UI	1	34	2	RZ590UI
901	023-34120-000	Emblem; RZ330AW	1	34	2	RZ330AW
902	023-37002-105	*Frame; Panel	1	29	1	
903	023-37011-104	*Protection Shield	1	29	15	
904	023-37013-000	*Cover; Sub-Panel	1	29	6	
905	023-37014-006	Panel Cover; Bottom	1	34	14	
906	023-37015-002	*Sheet ; Panel Mode Key Eng	1	29	2	UI,AW,AN
907	023-37015-002	*Sheet ; Panel Mode Key Eng	1	29-A	2	UI,AW,AN
908	023-37016-106	*Sheet ; Print Control;RZ3 Eng/inch	1	29	3	UI
909	023-37017-005	*Sheet ; Sub Panel; RZ390UI	1	29	5	RZ390UI
910	023-37018-001	*Plate ; Main Panel Eng	1	29	4	UI,AW,AN
911	023-37021-100	*Lpnl-Ctl PCB	1	29	16	
912	023-37022-106	*Main-SW-PCB	1	29	17	
913	023-37023-102	*Sub-SW-PCB	1	29	18	
914	023-37031-008	*Start Key; Eng	1	29	12	UI, AW, AN
915	023-37031-008	*Start Key; Eng	1	29-A	10	UI, AW, AN
916	023-37032-004	*Start Key; Pic.	1	29	12	EP,UP
917	023-37032-004	*Start Key; Pic.	1	29-A	10	EP,UP
918	023-37036-000	*Stop Key; Eng	1	29	9	UI, AW, AN
919	023-37036-000	*Stop Key; Eng	1	29-A	7	UI, AW, AN
920	023-37037-006	*Stop Key; Pic.	1	29	9	EP,UP
921	023-37037-006	*Stop Key; Pic.	1	29-A	7	EP,UP
922	023-37038-002	*Stop Key; Ch	1	29	9	C,CN
923	023-37038-002	*Start Key; Ch	1	29	12	C,CN
924	023-37038-002	*Stop Key; Ch	1	29-A	7	C,CN
925	023-37038-002	*Start Key; Ch	1	29-A	10	C,CN
926	023-37040-007	*Numeric Key	1	29	13	
927	023-37040-007	*Numeric Key	1	29-A	12	
928	023-37041-003	*Test Print Key; Eng	1	29	11	UI, AW, AN
929	023-37041-003	*Test Print Key; Eng	1	29-A	9	UI, AW, AN
930	023-37042-000	*Test Print Key; Pic.	1	29	11	EP,UP
931	023-37042-000	*Test Print Key; Pic.	1	29-A	9	EP,UP
932	023-37043-006	*Test Print Key; Ch	1	29	11	C,CN
933	023-37043-006	*Test Print Key; Ch	1	29-A	9	C,CN
934	023-37046-005	*Reset Key; Eng	1	29	8	UI, AW, AN
935	023-37046-005	*Reset Key; Eng	1	29-A	6	UI, AW, AN
936	023-37047-001	*Reset Key; Pic.	1	29	8	EP,UP
937	023-37047-001	*Reset Key; Pic.	1	29-A	6	EP,UP
938	023-37048-008	*Reset Key; Ch	1	29	8	C,CN
939	023-37048-008	*Reset Key; Ch	1	29-A	6	C,CN
940	023-37050-100	*Print Mode Key	1	29	10	
941	023-37050-100	*Print Mode Key	1	29-A	8	
942	023-37051-009	*Print Control Key; RZ3	1	29	14	
943	023-37056-000	*Wake-Up Key	1	29	7	
944	023-37056-000	*Wake-Up Key	1	29-A	5	
945	023-37061-004	*Sheet ; Panel Mode Key Pic	1	29	2	EP,UP
946	023-37061-004	*Sheet ; Panel Mode Key Pic	1	29-A	2	EP,UP
947	023-37062-000	*Sheet ; Panel Mode Key Ch	1	29	2	C,CN
948	023-37062-000	*Sheet ; Panel Mode Key Ch	1	29-A	2	C,CN
949	023-37066-103	*Sheet ; Print Control;RZ3 Eng/mm	1	29	3	AW,AN
950	023-37067-100	*Sheet ; Print Control;RZ3 Pic/mm	1	29	3	EP,UP
951	023-37068-106	*Sheet ; Print Control;RZ3 Ch/mm	1	29	3	C,CN
952	023-37076-001	*Plate ; Main Panel	1	29	4	EP,UP

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
953	023-37077-105	*Plate ; Main Panel Ch	1	29	4	C,CN
954	023-37081-005	*Sheet ; Sub Panel; RZ370AW/AN	1	29	5	RZ37xAW/AN
955	023-37082-001	*Sheet ; Sub Panel; RZ370EP/UP	1	29	5	RZ37xEP/UP
956	023-37083-008	*Sheet ; Sub Panel; RZ370C	1	29	5	RZ37xC
957	023-37084-004	*Sheet ; Sub Panel; RZ310UI	1	29	5	RZ31xUI
958	023-37085-108	*Sheet ; Sub Panel; RZ300EP	1	29	5	RZ30xEP
959	023-37097-009	*Sheet ; Sub Panel; RZ330AW	1	29	5	RZ33xAW
960	023-37101-200	*Frame Panel; RZ5	1	29-A	1	
961	023-37102-002	*Touch Panel Cover	1	29-A	16	
962	023-37103-009	*Numeric Display Cover	1	29-A	4	
963	023-37107-004	*Print Control Key; RZ5	1	29-A	11	
964	023-37109-007	*Display Mode Key; Eng	1	29-A	17	UI, AW, AN
965	023-37110-005	*Display Mode Key; Pic	1	29-A	17	EP,UP
966	023-37111-001	*Display Mode Key; Ch	1	29-A	17	C,CN
967	023-37117-000	*Sheet; Print Control Key; RZ5 Eng	1	29-A	3	EP,UP
968	023-37118-006	*Sheet; Print Control Key; RZ5 Pic	1	29-A	3	UI,AW,AN
969	023-37119-002	*Sheet; Print Control Key; RZ5 Ch	1	29-A	3	C,CN
970	023-37128-001	*Shield Mylar Sheet A; RZ5 SW-PCB	1	29-A	13	
971	023-37129-008	*Shield Mylar Sheet B; RZ5 Mode Key	1	29-A	18	
972	023-37136-306	*ML-SW-PCB	1	29-A	14	
973	023-37137-000	*MODE-KEY-PCB	1	29-A	19	
974	023-37142-004	*Grounding plate; LCD Panel RZ5	3	29-A	15	
975	023-43775-205	*LCD Control Unit	1	29-A	20	
976	023-50001-002	Hinge Upper; PCB Bracket; Ejection Side	1	30	13	
977	023-50002-106	Hinge Lower; PCB Bracket; Ejection Side	1	30	14	
978	023-50003-005	*Hinge Bracket; Upper	1	32	9	Option
979	023-50003-005	Hinge Bracket; Upper	1	32	9	RZ5 Standard
980	023-50004-001	*Hinge Bracket; Lower	1	32	11	Option
981	023-50004-001	Hinge Bracket; Lower	1	32	11	RZ5 Standard
982	023-50006-101	Bracket; Power Supply & Mech PCB	1	30	16	
983	023-50009-003	Bracket Upper; Power Supply PCB	1	30	15	
984	023-50013-000	Guide; Download Card	1	30	17	
985	023-50014-007	Washer F4.5X12X1	3	30	33	
986	023-50016-000	*Secure Bracket; SH3M-PCB	1	32	10	Option
987	023-50016-000	Secure Bracket; SH3M-PCB	1	32	10	RZ5 Standard
988	023-50019-009	*Bracket; SH3M-PCB	1	32	1	Option
989	023-50019-009	Bracket; SH3M-PCB	1	32	1	RZ5 Standard
990	023-50022-000	Bracket; Counter	1	29	29	
991	023-50022-000	Bracket; Counter	1	29-A	31	
992	023-50024-002	Bracket; Rf-Tag PCB	1	29	24	
993	023-50024-002	Bracket; RF-Tag PCB	1	29-A	26	
994	023-50027-001	*Bracket; Option IF Connector	1	32	4	Option (NET-C Only)
995	023-50027-109	Bracket; Option IF Connector	1	32	4	Option(NET-C & NET-CII)
996	023-50027-109	Bracket; Option IF Connector	1	32	4	RZ5 Standard
997	023-50028-008	*Connector Cover; PC Card slot	1	32	6	Option
998	023-50028-008	Connector Cover; PC Card slot	1	32	6	RZ5 Standard
999	023-50029-004	*Noise Reduction Cover	1	32	3	Option
1000	023-50029-004	Noise Reduction Cover	1	32	3	RZ5 Standard
1001	023-50031-009	Main Power SW Ass'y	1	29	23	
1002	023-50031-009	Main Power SW Ass'y	1	29-A	25	
1003	023-50032-005	Wire Harness; Main Power SW	1	29	31	
1004	023-50032-005	Wire Harness; Main Power SW	1	29-A	33	
1005	023-50032-005	Wire Harness; Main Power SW	1	30	25	
1006	023-50033-206	PS15-N100	1	30	18	AN,UI
1007	023-50036-108	Junction PCB; Paper Feed	1	3	33	
1008	023-50038-208	*SH3M-PCB	1	32	2	Option(RZ2/3 series only)

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1009	023-50039-000	Wire Harness; MR	1	30	34	OPTION
1010	023-50039-000	*Wire Harness; MR	1	32	7	Option
1011	023-50039-000	Wire Harness; MR	1	32	7	RZ5 Standard
1012	023-50040-008	Net-CII Cover;SH3	1	32	5	Option(NET-C & NET-CII)
1013	023-50040-008	Net-CII Cover;SH3	1	32	5	RZ5 Standard
1014	023-50041-004	Spring; Drive Interlock SW	2	30	6	
1015	023-50042-000	Shaft Bracket; Drive Interlock SW	2	30	5	
1016	023-50043-007	Frame; Drive Interlock SW; P.-Rcv. Side	1	30	11	
1017	023-50044-003	Frame; Drive Interlock SW; P.-F. Side	1	30	4	
1018	023-50051-107	Bracket P-Rcv Side; Drive Interlock SW	1	30	12	
1019	023-50052-103	Bracket Pf Side; Drive Interlock SW	1	30	9	
1020	023-50053-002	Spring; SW Bracket; D Interlock SW	2	30	10	
1021	023-50055-005	Button; Drive Interlock SW	2	30	7	
1022	023-50067-003	Wire Harness Guide Plate	1	19	40	
1023	023-50073-003	PS15-N200	1	30	18	EP,UP,AW,C
1024	023-50102-208	SH3M2-PCB	1	32	2	RZ5 Standard(RZ5 only)
1025	023-53001-100	Wire Harness; Panel	1	31	2	3xx
1026	023-53002-000	Wire Harness; Main Power Source	1	30	24	
1027	023-53003-006	Wire Harness; Master Rf-Tag	1	29	28	
1028	023-53003-006	Wire Harness; Master RF-Tag	1	29-A	30	
1029	023-53003-006	Wire Harness; Master RF-Tag	1	30	22	
1030	023-53004-100	TPH Drawer Connector H; Drive	1	21	26	
1031	023-53006-102	Wire Harness; Upper	1	31	3	
1032	023-53007-109	Wire Harness; Lower F	1	14	26	
1033	023-53007-109	Wire Harness; Lower F	1	21	45	
1034	023-53007-109	Wire Harness; Lower F	1	29	26	
1035	023-53007-109	Wire Harness; Lower F	1	29-A	28	
1036	023-53007-109	Wire Harness; Lower F	1	31	8	
1037	023-53009-101	Wire Harness; Lower R	1	31	5	
1038	023-53010-100	Wire Harness; Paper Ejection Rear	1	6	11	
1039	023-53010-100	Wire Harness; Paper Ejection Rear	1	7	17	
1040	023-53010-100	Wire Harness; Paper Ejection Rear	1	30	21	
1041	023-53010-100	Wire Harness; Paper Ejection Rear	1	31	6	
1042	023-53011-106	Wire Harness; Paper Feed Rear	1	2	39	
1043	023-53011-106	Wire Harness; Paper Feed Rear	1	3	34	
1044	023-53011-106	Wire Harness; Paper Feed Rear	1	5	21	
1045	023-53011-106	Wire Harness; Paper Feed Rear	1	31	7	
1046	023-53012-200	Wire Harness; FB Upper	1	5	20	3xx
1047	023-53012-200	Wire Harness; FB Upper	1	19	39	3xx
1048	023-53012-200	Wire Harness; FB Upper	1	20	40	3xx
1049	023-53012-200	Wire Harness; FB Upper	1	30	23	3xx
1050	023-53012-200	Wire Harness; FB Upper	1	31	4	3xx
1051	023-53014-008	Wire Harness ; Drum Drawer	1	14	21	
1052	023-53014-008	Wire Harness; Drum Drawer H	1	29	27	
1053	023-53014-008	Wire Harness; Drum Drawer H	1	29-A	29	
1054	023-53017-007	*Wire Harness; FB Pulse Motor	1	6	8	
1055	023-53017-007	Wire Harness; FB Pulse Motor	1	20	39	
1056	023-53023-007	Elevator Safety SW	1	2	9	
1057	023-53023-007	Elevator Safety SW	1	3	12	
1058	023-53024-003	*Drum Safety SW	1	14	17	
1059	023-53025-000	Safety SW Ass'y ; M-M,M-Rmv. Unit	1	21	43	
1060	023-53025-000	*Safety SW Ass'y; M-M/M-Rmv Unit	1	28	51	
1061	023-53026-006	Drive Interlock Safety SW	2	30	8	
1062	023-53027-002	Wire Harness; Panel RZ5	1	31	2	5xx
1063	023-53028-203	Wire Harness; FB Upper RZ5	1	5	20	5xx
1064	023-53028-203	Wire Harness; FB Upper RZ5	1	19	39	5xx

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1065	023-53028-203	Wire Harness; FB Upper RZ5	1	20	40	5xx
1066	023-53028-203	Wire Harness; FB Upper RZ5	1	30	23	5xx
1067	023-53028-203	Wire Harness; FB Upper RZ5	1	31	4	5xx
1068	023-74001-046	*Motor Assy (CWRS-445PA)	1	3	29	
1069	023-74001-046	*Motor Assy (CWRS-445PA)	1	15	8	
1070	023-74001-046	*Motor Assy (CWRS-445PA)	1	22	56	
1071	023-74001-046	*Motor Assy (CWRS-445PA)	1	28	40	
1072	023-74002-050	*Suction Motor; Cwrs-55PH	4	28	27	
1073	023-74036-001	Clamp Unit(1-11)	1	15		
1074	023-74049-006	FB Actuator A'ssy(5-8)	1	19		
1075	023-74068-000	Pressure Roller Ass'y; A3	1	8	7	39x, 37x, 59x, 57x
1076	023-74142-050	*Master Guide Assy ML;B4 SU(31-39)	1	24		33x
1077	023-75055-000	MECHA-CTL PCB; L; SU	1	30	19	
1078	023-75055-000	MECHA-CTL PCB; L; SU	1	31	1	
1079	023-75061-050	Drum Body L; A3; SU	1	10	1	37x, 57x
1080	023-75062-057	Drum Body L; A4; SU	1	10	1	31x, 30x, 51x, 50x
1081	023-75063-053	Drum Body L; Ledger; SU	1	10	1	39x, 59x
1082	023-75067-059	Drum Body; B4 ML; SU	1	10	1	33x
1083	023-75068-055	Drum Body ; A4W	1	10	1	Inkless drum
1084	023-75069-051	*Clamp Cam Assy	1	15	1	
1085	023-75071-056	Pressure Roller Support; Front Ass'y	1	8	5	
1086	023-75072-052	Pressure Roller Support; Rear Ass'y	1	8	6	
1087	023-75073-059	*TPH Assy A3(29-41)	1	22		39x, 37x, 59x, 57x
1088	023-75075-051	*TPH Assy B4(29-41)	1	22		31x, 30x, 33x, 51x, 50x
1089	023-75076-058	Pressure Control Assy(1-10)	1	6		
1090	023-75077-054	Air Pump Assy(17-29)	1	16		
1091	023-75078-050	Elevator Motor Assy(21-30)	1	3		
1092	023-75079-057	Guide Plate Assy(30-33)	1	8		
1093	023-75080-055	Guide Roller Assy(20-28)	1	8		
1094	023-75082-058	P.-F.-T.Unit SU(1-33)	1	4		
1095	023-75084-050	Suction Unit(1-32)	1	17		3xx
1096	023-75086-053	Suction Unit; RZ5; ML SU(1-32)	1	17-A		5xx
1097	023-75089-052	Stripper Unit(35-54)	1	8		
1098	023-75090-050	Squeegee Unit;A3(16-30)	1	12		39x, 37x, 57x, 59x
1099	023-75091-057	Squeegee Unit;B4(16-34)	1	13		33x
1100	023-75092-053	Squeegee Unit;A4(16-34)	1	13		31x, 30x, 51x, 50x
1101	023-75093-050	Timing Roller Assy(10-12)	1	8		
1102	023-75094-056	Ver. Print Pos. Base Assy(1-19)	1	5		
1103	023-75095-052	P.-Rcv.-T Unit(1-23)	1	18		
1104	023-75097-055	Disposal Box Unit;(1-6)	1	25		39x, 37x, 59x, 57x
1105	023-75098-051	Disposal Box Unit II(1-6)	1	25		31x, 30x, 33x, 51x, 50x
1106	023-75099-058	Panel Unit; RZ370EP/UP (1-18)	1	29		RZ37xEP/UP
1107	023-75104-051	Panel Unit ; RZ300EP (1-18)	1	29		RZ300EP
1108	023-75105-058	Panel Unit; RZ390UI (1-18)	1	29		RZ39xUI
1109	023-75106-054	Panel Unit; RZ310UI (1-18)	1	29		RZ31xUI
1110	023-75107-050	Panel Unit; RZ370AW/AN (1-18)	1	29		RZ37xAW/AN
1111	023-75108-057	Panel Unit; RZ370C (1-18)	1	29		RZ37xC
1112	023-75112-054	Clamp Plate Assy(20-31)	1	10		
1113	023-75113-050	Unit / Stage Cover(1-5)	1	33		
1114	023-75114-057	*Write Roller Assy A3(25-27)	1	23		39x, 37x, 59x, 57x
1115	023-75116-050	*Write Roller Assy B4(25-27)	1	23		31x, 30x, 33x, 51x, 50x
1116	023-75119-059	Pressure Roller Ass'y; B4	1	8	7	33x
1117	023-75120-057	Pressure Roller Ass'y; A4	1	8	7	31x, 30x, 51x, 50x
1118	023-75121-053	Separation Fan Assy(1-5)	1	16		
1119	023-75123-056	Cartridge Guide Assy(6-15)	1	11		
1120	023-75124-052	Main Gear Assy; A3 (8-14)	1	7		37x, 57x

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1121	023-75125-059	Main Gear Assy B4(8-14)	1	7		33x
1122	023-75126-055	Main Gear Assy; A4 (8-14)	1	7		31x, 30x, 51x, 50x
1123	023-75127-051	Main Gear Assy; Ledger (8-14)	1	7		39x, 59x
1124	023-75128-058	Main Motor Assy(21-24)	1	7		
1125	023-75129-054	Master Making Unit A3(Fig21 1-9, Fig22-24)	1	21		39x, 37x, 59x, 57x
1126	023-75130-052	Master Making Unit A4L(Fig21 1-9, Fig22-24)	1	21		31x, 30x, 51x, 50x
1127	023-75133-051	Master Making Unit B4;ML(Fig21 1-9, Fig22-24)	1	21		33x
1128	023-75134-058	Drum Lock Assy(10-19)	1	14		
1129	023-75135-054	Master Removal Unit(Fig25, Fig27)	1	26		39x, 37x, 59x, 57x
1130	023-75136-050	Master Removal Unit II(Fig26, Fig27)	1	27		31x, 30x, 33x, 51x, 50x
1131	023-75137-057	*Master Roll Holder Assy A3(52-64)	1	23		39x, 37x, 59x, 57x
1132	023-75138-053	*Master Roll Holder Assy B4(52-64)	1	23		33x
1133	023-75139-050	*Master Roll Holder Assy A4(52-64)	1	23		31x, 30x, 51x, 50x
1134	023-75140-058	*Master Guide Assy (31-39)	1	24		39x, 37x, 59x, 57x
1135	023-75141-054	*Master Guide Assy II(31-39)	1	24		31x, 30x, 51x, 50x
1136	023-75145-050	*Write Pulse Motor Ass'y; SU (#1-5)		21		
1137	023-75147-052	*Flap ; P.-Rcv.T. Ass'y	4	18		
1138	023-75152-056	*Disc; Clamp Sensor Ass'y	1	15	3	
1139	023-75153-052	Pressure Solenoid Assy(26-29)	1	7		
1140	023-75159-050	Elevator Shaft Ass'y	1	3	4	
1141	023-97000-101	Scanner Unit 300C2 (Fig.18,1-30, Fig.19.1-38)	1	19		
1142	030-11358-003	*Net-C Cover;SH3	1	32	5	Option (NET-C Only)
1143	030-12114-000	*Lever; Pressure Solenoid	1	7	28	
1144	030-12235-100	Support Plate; Main Motor	1	7	3	
1145	030-14342-108	Support Plate B; Upper limit	1	2	28	
1146	030-14346-006	Upper limit Adj. Screw	1	2	29	
1147	030-14347-002	Base; Upper limit Adj. Screw	1	2	30	
1148	030-14458-203	Fix Plate; Load Spring	1	8	19	
1149	030-14476-201	Load Spring	1	8	17	
1150	030-14480-004	Tube; 3x5	1	8	54	
1151	030-14521-002	*Lock; Fixing Block	1	8	40	
1152	030-15249-004	*Roller (Inner); Transfer Belt	3	17	18	
1153	030-15249-004	*Roller (Inner); Transfer Belt	3	17-A	18	
1154	030-16108-005	Shaft Holder; Right	1	14	24	
1155	030-16108-005	Shaft Holder; Right	1	21	22	
1156	030-16108-005	*Shaft Holder; Right	1	24	1	
1157	030-16109-001	Shaft Holder; Left	1	14	25	
1158	030-16109-001	Shaft Holder; Left	1	21	21	
1159	030-16109-001	*Shaft Holder; Left	1	24	2	
1160	030-16404-003	Ink Distributor	1	11	2	39x, 37x, 59x, 57x
1161	030-19205-001	*Support; Clamp Worm	1	3	30	
1162	030-19205-001	*Support; Clamp Worm	1	15	7	
1163	030-19205-001	*Support; Clamp Worm	1	22	57	
1164	030-19205-001	*Support; Clamp Worm	1	28	39	
1165	030-19242-004	*Bracket A; Compression Gear	1	28	9	
1166	030-19243-000	*Bracket B; Compression Gear	1	28	10	
1167	030-19408-000	*Spring; Box Cover; Disposal Box	1	25	5	
1168	035-14303-001	*Rubber ; Pick-Up Roller	2	2	15	
1169	408-02300-001	Battery; CR-2032	1	30	20	
1170	435-00047-004	*Ferrite Core	1	32	8	Option
1171	435-00047-004	Ferrite Core	1	32	8	RZ5 Standard
1172	444-30000-001	Sensor; GP1A73A	3	2	32	
1173	444-30002-101	Sensor GP1A75ER	1	21	44	
1174	444-30008-002	Sensor; LG-248NI1	1	3	14	
1175	444-30008-002	*Sensor; LG-248NI1	1	5	19	
1176	444-30008-002	*Sensor; LG-248NI1	1	6	10	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1177	444-30008-002	Sensor; LG-248NI1	1	7	16	
1178	444-30008-002	*Sensor ; LG-248NL1	1	11	21	
1179	444-30008-002	*Sensor;LG-248NI1	1	14	19	
1180	444-30008-002	*Sensor; LG-248NI1	2	15	10	
1181	444-30008-002	*Sensor; LG-248NL1	1	17-A	42	
1182	444-30008-002	*Sensor; LG-248NL1	1	19	34	
1183	444-30008-002	*Sensor; LG-248NI1	1	22	50	
1184	444-30008-002	*Sensor; LG-248NI1	2	24	49	
1185	444-30008-002	*Sensor; LG-248NI1	1	26	29	
1186	444-30008-002	*Sensor; LG-248NI1	1	27	28	
1187	444-30008-002	*Sensor; LG-248NI1	2	28	47	
1188	444-30010-007	Sensor; LG285D1	1	29	22	
1189	444-30010-007	Sensor; LG285D1	1	29-A	24	
1190	444-33000-002	*GP2A200LCS	1	17	22	
1191	444-33000-002	*GP2A200LCS	1	17	27	
1192	444-33000-002	*GP2A200LCS	1	17-A	22	
1193	444-33000-002	*GP2A200LCS	1	17-A	28	
1194	444-33003-109	*Sensor; ON-171-A8	1	24	50	
1195	444-33006-000	*Sensor; PS-117ED1	1	4	10	
1196	444-33006-000	*Sensor; PS-117ED1	1	8	30	
1197	444-39000-004	**Sensor; E-3674	1	24	39	
1198	444-41002-200	*Sensor;OS665633-703	1	26	28	
1199	444-41002-200	*Sensor;OS665633-703	1	27	27	
1200	444-42029-200	*Sensor (Send); KH0854-00	1	23	24	
1201	444-42030-305	*Sensor (Rcv); KH0854-01	1	22	20	
1202	444-43007-200	*Master Loading Sensor	1	26	26	
1203	444-43007-200	*Master Loading Sensor	1	27	25	
1204	444-51003-000	Sensor; YAA81-0068N	1	11	5	31x,30x, 51x, 50x, 33x
1205	444-51004-007	Sensor; YAA81-0070N	1	11	5	39x,37x, 59x, 57x
1206	444-59002-107	RF-Tag Reader; Drum	1	11	16	
1207	444-59003-107	RF-Tag PCB	1	29	25	
1208	444-59003-107	RF-Tag PCB	1	29-A	27	
1209	444-59006-106	*RF-Tag Reader; Master	1	23	46	
1210	444-80001-106	**TPH 303R11	1	22	34	39x, 37x, 59x, 57x
1211	444-80002-102	**TPH260R39	1	22	34	31x, 30x, 33x, 51x, 50x
1212	488-00048-004	Power Cord; 220V EU (L)	1	30	32	EP,UP,AW,C
1213	488-00050-009	Power Cord; 100V (L)	1	30	32	AN,UI
1214	488-90030-109	**Ground Wire; U3-55-R3	1	22	41	
1215	490-20005-008	*Motor; CCWRS-555PH-24100	1	17	26'	
1216	490-20005-008	*Motor; CCWRS-555PH-24100	1	17-A	27	
1217	490-20005-008	*Motor; CCWRS-555PH-24100	1	28	56	
1218	490-22017-003	*CWTD3337G-24F-9K24E	1	7	21	
1219	490-31010-003	*Motor;KH42JM2B173	1	6	7	
1220	490-33015-002	*Motor; PM42L-048-ZVN6	1	17-A	38	5xx
1221	490-33015-002	**Motor; PM42L-048-ZVN6	1	21	2	
1222	490-33015-002	*Motor; PM42L-048-ZVN6	1	24	28	
1223	490-33016-009	*Motor; PM42L-048-ZVN5	1	5	17	
1224	490-41009-003	*Fan; D12F-24PLH1C10	1	17	28	
1225	490-41009-003	*Fan; D12F-24PLH1C10	1	17-A	29	
1226	490-41012-004	*Fan; BG1203-B054	2	16	2	
1227	490-50006-009	*Solenoid; Tds-10A-1056	1	7	27	
1228	490-50006-009	*Solenoid; Tds-10A-1056	1	14	11	
1229	490-50006-009	Solenoid; Tds-10A-1056	1	21	37	
1230	490-50007-005	*Solenoid; Tds-09SI-59	1	24	22	
1231	492-00001-108	Counter	2	29	30	
1232	492-00001-108	Counter	2	29-A	32	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1233	550-20059-108	Seal;P.-F.-T.Down	1	2	3	
1234	550-21173-001	Seal: P.-Feed Pressure; Pic.	1	2	2	
1235	600-50057-006	Bearing;Flaw678 ZZA	2	3	19	
1236	601-10195-004	Bearing; Ddlf-1910ZZR	1	8	16	
1237	601-10228-000	*Bearing;6900ZZNR	2	23	28	
1238	607-00005-006	Metal; S6X22/19X6; 26X2	1	7	32	
1239	607-03001-001	*Metal;S4X7X2	1	12	20	
1240	607-03001-001	*Metal;S4X7X2	1	13	20	
1241	607-03001-001	*Metal;S4X7X2	1	13	20	
1242	607-10003-001	Metal;F16X22/19X6;26X2	1	7	33	
1243	607-10003-001	Metal;F16X22/19X6;26X2	2	8	9	
1244	607-10005-004	**Metal;F8x10x3;11.2x0.6	2	22	40	
1245	607-10006-000	*Metal;F6X8X4;10X1	2	23	34	
1246	607-10006-000	**Metal;F6x8x4;10x1	6	24	31	
1247	607-10009-000	*Metal;F6X10X6.5;12X1.5	2	26	19	
1248	607-10009-000	*Metal;F6X10X6.5;12X1.5	2	27	18	
1249	607-13000-003	*Metal;F6X10/9X4;12X1.5	2	28	34	
1250	607-13000-402	*Metal;F6X10/9X6:12 X 1.5	2	17	16	
1251	607-13000-402	*Metal;F6X10/9X6:12 X 1.5	5	17-A	16	
1252	607-13000-402	*Metal;F6X10/9X6:12 X 1.5	2	22	48	
1253	607-15000-000	Metal; F8X13/12X5;16X2	1	2	35	
1254	607-15000-000	Metal; f8X13/12X5;16X2	1	3	20	
1255	607-15000-000	Metal;f8X13/12X5;16X2	2	16	11	
1256	607-15000-000	*Metal; f8X13/12X5;16X2	2	28	22	
1257	607-15000-400	*Metal; F8X12/11X10: 15X2	2	28	17	
1258	607-15001-503	Metal; F8X12/10.8X14; 16X2	1	2	38	
1259	607-15005-002	*Metal; F8X10X8; 12X1.5	2	24	17	
1260	607-15007-005	*Metal;F8X12X7;16X1.5	2	22	43	
1261	607-16001-000	Metal;F10X15/14X6;18X2	3	2	13	
1262	607-16001-000	Metal;F10X15/14X6;18X2	2	8	13	
1263	607-16001-000	*Metal;F10X15/14X6;18X2	2	28	7	
1264	607-16008-003	*Metal;F10X14x10;18X2	2	22	28	
1265	607-40001-003	*Metal;F8X11/10X5.5;14X2	1	8	23	
1266	610-00022-003	**Damper; 2G50-C-10HG	1	23	62	
1267	610-00022-003	*Damper; 2G50-C-10HG	1	24	23	
1268	610-10009-005	*One-Way Hinge; OWNF6-1NRS	1	4	28	
1269	611-90002-003	*Pulley;P40S2M60	1	17	19	
1270	611-90002-003	*Pulley;P40S2M60	1	17-A	19	
1271	611-90006-009	Pulley; P18-5GT-12	1	7	7	
1272	611-90007-005	*Pulley; P42-5Gt	1	7	12	
1273	611-90008-001	*Pulley; P42-5GT-13	1	7	24	
1274	611-90010-006	**Pulley Ass'y; P40-2Gt-5	1	21	4	
1275	611-90012-009	*Pulley; P70-2Gt-5	1	23	30	
1276	612-02101-207	*Gear; M1X15X12	1	8	12	
1277	612-03106-008	*Gear;M1X80X10	1	16	18	
1278	612-10001-009	*Gear;M1.25X22	1	26	22	
1279	612-10001-009	*Gear;M1.25X22	1	27	21	
1280	612-10002-005	*Gear;M1.25X12	1	26	23	
1281	612-10002-005	*Gear;M1.25X12	1	27	22	
1282	612-10003-001	*Gear;M1.25X9	1	26	24	
1283	612-10003-001	*Gear;M1.25X9	1	27	23	
1284	612-10004-008	*Gear;M1.25X12X7	2	28	18	
1285	612-10005-004	*Gear;M0.8X54	1	28	31	
1286	612-10006-000	*Gear;M0.8X60+M0.8X16	1	28	30	
1287	612-10009-107	*Gear; M1x24	1	3	24	
1288	612-10010-008	*Gear;M1X20X6	1	22	46	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1289	612-10013-007	*Gear;M0.8X36X10	1	5	15	
1290	612-10014-003	*Gear; M1X126X7.5	1	5	10	
1291	612-10016-006	*Gear; M1X140X8	1	5	5	
1292	612-10017-002	*Gear;M1X80X10	1	7	23	
1293	612-10018-009	*Gear; M0.8X25	1	28	33	
1294	612-10019-005	*Gear; M1.25X16X4.5	1	28	36	
1295	612-10020-003	*Gear; M1.25X16X8.5	1	28	37	
1296	612-10021-107	Gear;M0.8X33X7.4	1	2	12	
1297	612-10023-002	*Gear;M1X50X6	1	4	9	
1298	612-10024-009	*Gear; M1x25x8.5 OWC	1	12	29	
1299	612-10024-009	*Gear; M1x25x7 OWC	1	13	29	
1300	612-10024-009	*Gear; M1x25x7 OWC	1	13	29	
1301	612-10026-001	Gear;M1X45X6	1	12	8	
1302	612-10026-001	Gear;M1X45X6	1	13	8	
1303	612-10027-008	*Gear;M0.8X19X4	1	12	25	
1304	612-10027-008	*Gear;M0.8X19X4	1	13	25	
1305	612-10027-008	*Gear;M0.8X19X4	1	13	25	
1306	612-10028-004	*Gear;M0.8X43X3	1	12	26	
1307	612-10028-004	*Gear;M0.8X43X3	1	13	26	
1308	612-10028-004	*Gear;M0.8X43X3	1	13	26	
1309	612-10035-000	*Gear; M0.5x21x6	1	17-A	41	5xx
1310	612-10036-007	*Gear;M1x20x7	1	4	29	
1311	612-10103-006	*Gear;M0.8X13X5	1	24	9	
1312	612-10104-002	*Gear;M0.8X16X5	1	24	18	
1313	612-10105-009	*Gear;M0.8X16X4	1	24	26	
1314	612-10106-005	*Gear;M0.8X34X4	1	24	25	
1315	612-11103-000	*Gear; M0.8X15X7	1	28	45	
1316	612-11300-107	Gear;M0.8X34X8.5	2	2	19	
1317	612-11304-005	*Gear; M0.8X37+M1X15	1	15	5	
1318	612-12208-107	Gear; M1X28X8	1	6	26	
1319	612-12306-001	*Gear ; M1x32x4	1	11	18	
1320	612-12315-000	*Gear; M1X31X6	1	15	2	
1321	612-12701-008	*Gear; M1X71X14	1	28	8	
1322	612-30001-005	*Helical gear; M1x16x6	1	17-A	35	5xx
1323	612-50005-007	*Worm gear; M1x12x1	1	17-A	39	5xx
1324	612-80006-008	*Gear;M0.8X25+M0.8X14	1	22	52	
1325	612-80007-004	*Gear;M0.8X25+M1X14	1	22	54	
1326	612-80008-000	*Gear; M0.8X20+M0.8X14	1	22	55	
1327	612-80011-001	*Gear; M0.8X23+M0.8X14	1	3	25	
1328	612-80012-008	*Gear; M0.8X30+M0.8X14	1	3	26	
1329	612-80013-004	*Gear; M0.8X29+M1X14	1	3	27	
1330	612-80017-000	*Gear;M1X42+M1X28	1	5	7	
1331	612-80018-006	*Gear;M0.8X36+M0.8X18	2	24	30	
1332	612-80019-002	*Gear;Mx0.5X89+M0.8X34	1	24	29	
1333	612-81303-006	*Gear; M0.8X35+M0.8X15	1	5	16	
1334	612-81303-006	*Gear; M0.8X35+M0.8X15	1	15	6	
1335	612-81303-006	*Gear; M0.8X35+M0.8X15	1	28	41	
1336	612-81401-008	*Gear; M0.8X17+M0.8X49	1	28	44	
1337	612-81602-003	*Gear; M1X17+M0.8X61	1	28	43	
1338	612-82407-000	Gear; M1X41+M1X29	1	6	25	
1339	613-10002-002	**Gear Pulley; M0.5X130+17-2	1	21	3	
1340	613-11300-007	*Pulley Gear; 0.8X31+53S2M	1	28	28	
1341	620-00010-001	Belt; 645-5GT-10	1	7	25	
1342	620-80001-008	**Belt; 256-2GT-4	1	21	5	
1343	621-00001-000	*Belt; 40-S2M-290	1	28	29	
1344	621-00003-002	*Belt; 40-S2M-138	1	17	20	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1345	621-00003-002	*Belt; 40-S2M-138	1	17-A	20	
1346	628-21401-009	*Transfer Belt 2; 2X140	4	26	16	
1347	628-21401-009	*Transfer Belt 2; 2X140	3	27	15	
1348	629-00002-004	*Flat Belt; 15X0.65X519	3	17	3	
1349	629-00002-004	*Flat Belt; 15X0.65X519	3	17-A	3	
1350	635-10002-000	*Stepped Screw;F4X4.5;M3X4	2	22	64	
1351	635-10004-002	Stepped Screw;F5X5;M3X3	4	21	24	
1352	635-10005-009	**Stepped Screw;F6x7.2;M3x4	1	22	33	
1353	635-10006-005	*Stepped Screw;F5X10.8;M3X3	2	28	15	
1354	635-10007-001	*Stepped Screw;F5X3;M3X3	2	24	44	
1355	635-10008-008	*Stepped Screw;F6X5;M3X5	1	10	31	
1356	635-10009-004	Stepped Screw;F5X26;M3X4	2	9	17	
1357	635-17423-000	*Stepped Screw;F4X2.2;M3X4	2	23	11	
1358	635-17433-006	Step Screw	2	12	12	
1359	635-17433-006	Step Screw	2	13	12	
1360	635-17523-005	Stepped Screw;Dia.5X2;M3X3	4	9	11	
1361	635-17613-004	*Stepped Screw;6X1.8;M3X4	2	4	31	
1362	635-17613-004	Stepped Screw;6X1.8;M3X4	2	8	8	
1363	635-17613-101	*Step Screw; D6X1.5; M3X4.5	1	23	49	
1364	635-17614-108	Stepped Screw;6X1.7;M4X4	1	16	14	
1365	635-17624-006	*Stepped Screw;6X2.2;M4X2.5	1	8	50	
1366	635-17634-001	Stepped Screw;F6X3;M4X4	2	12	6	
1367	635-17634-001	Stepped Screw;F6X3;M4X4	2	13	6	
1368	635-17814-000	Stepped Screw; 8X1.7;M4X4.3	1	7	6	
1369	635-17824-005	Stepped Screw;F8X2.3;M4X4.4	4	2	5	
1370	635-18513-003	*Stepped Screw;F5X1.5;M3X3	1	28	50	
1371	639-00002-000	*Sheet ;Squeegee Roller	1	12	30	
1372	639-00605-104	Washer ; 6.2x9.5x0.5	4	4	38	
1373	639-00610-000	P Washer; 6X13.5X1	1	8	15	
1374	639-00815-001	*Washer ; 8x16x1.5	1	13	34	
1375	639-00815-001	*Washer ; 8x16x1.5	1	13	34	
1376	640-60040-000	*O Ring;P4-1.9	1	12	21	
1377	640-60040-000	*O Ring;P4-1.9	1	13	21	
1378	640-60040-000	*O Ring;P4-1.9	1	13	21	
1379	640-60100-100	O Ring ; P10-2.4	1	11	3	
1380	640-67340-009	*O Ring;34-3.6	1	16	25	
1381	660-01000-013	Rubber Foot; K-40	4	1	14	
1382	660-05000-018	Magnet Catch;SM-50P	1	4	34	
1383	660-05000-018	*Magnet Catch; SM-50P	1	18	23	
1384	660-05000-018	Magnet Catch;SM-50P	1	29	20	
1385	660-05000-018	Magnet Catch;SM-50P	1	29-A	22	
1386	660-05105-006	Door Catch	1	34	5	
1387	660-05106-002	Cover Catch	1	34	4	
1388	665-01212-009	Reuse Band ; RSG-130	3	26	33	
1389	665-01212-009	Reuse Band ; RSG-130	3	27	32	
1390	665-02021-606	Clip; NK-7N Nikko Nylon Clip	1	16	31	
1391	665-02039-009	Edging Saddle;ESD-17L	1	1	29	
1392	665-02039-009	Edging Saddle;ESD-17L	3	30	26	
1393	665-02043-006	Wire Saddle;LWS-1316	6	1	28	
1394	665-02043-006	Wire Saddle;LWS-1316	2	19	38	
1395	665-02043-006	*Wire Saddle;LWS-1316	2	22	66	
1396	665-02043-006	Wire Saddle;LWS-1316	17	30	28	
1397	665-02044-002	Wire Saddle;LWS-0711	1	12	32	
1398	665-02044-002	Wire Saddle;LWS-0711	1	13	36	
1399	665-02044-002	Wire Saddle;LWS-0711	1	21	46	
1400	665-02044-002	*Wire Saddle;LWS-0711	2	23	66	

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ID	Part No.	Part Name	Q'ty	Fig	No.	Remark
1401	665-02044-002	*Wire Saddle LWS-0711	2	24	52	
1402	665-02044-002	Wire Saddle;LWS-0711	6	29	32	
1403	665-02044-002	Wire Saddle;LWS-0711	6	29-A	34	
1404	665-02055-004	Wire Saddle; LWS-2218	8	30	27	
1405	665-02901-002	Power Band T10	2	16	7	
1406	665-04002-005	Square Bushing	1	29	33	
1407	665-04002-005	Square Bushing	1	29-A	35	
1408	665-04002-005	Square Bushing	1	30	30	
1409	665-04054-005	Square Bushing;Sb-2718	2	30	31	
1410	665-04055-001	SB-6025	2	19	36	
1411	665-04055-001	SB-6025	1	29	34	
1412	665-04055-001	SB-6025	1	29-A	36	
1413	665-04055-001	SB-6025	1	30	29	
1414	S-4340	Risorinc3N(1-11)	1	32		
1415		Panel Unit; RZ330AW (1-18)	1	29		RZ33xAW
1416		Side Frame L Front	1	1	1	
1417		Side Frame L Rear :Assy	1	1	2	
1418		*Pin	1	11	19	
1419		*Ink Motor Ass'y	1	11	20	
1420		Main Frame ; Drum	1	12	1	
1421		Main Frame ; Drum	1	13	1	
1422		*Front Frame; M.-M Unit Assy	1	23	2	
1423		*Washer; D6	2	26	30	
1424		*Washer; D6	2	27	29	
1425		Panel Unit ; RZ5 Eng (1-19)	1	29-A		UI,AW,AN
1426		Panel Unit; RZ5 Pic (1-19)	1	29-A		EP,UP
1427		Panel Unit; RZ5 Ch (1-19)	1	29-A		C,CN

 Yellow marked parts are RZ5 new parts or modification parts.

 Blue marked parts are just last 3 digits number change or minor note.